July, 1943

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Yachting

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FEATURES IN THIS ISSUE

DOWN WHERE THE LAKES BEGIN . . . . . *By Critchell Rimington*
ANCHOR FACTORS . . . . . *By Ridsdale Ellis*
THE VOYAGE OF THE "TONQUIN" . . . . . *By Margaret Wallace*

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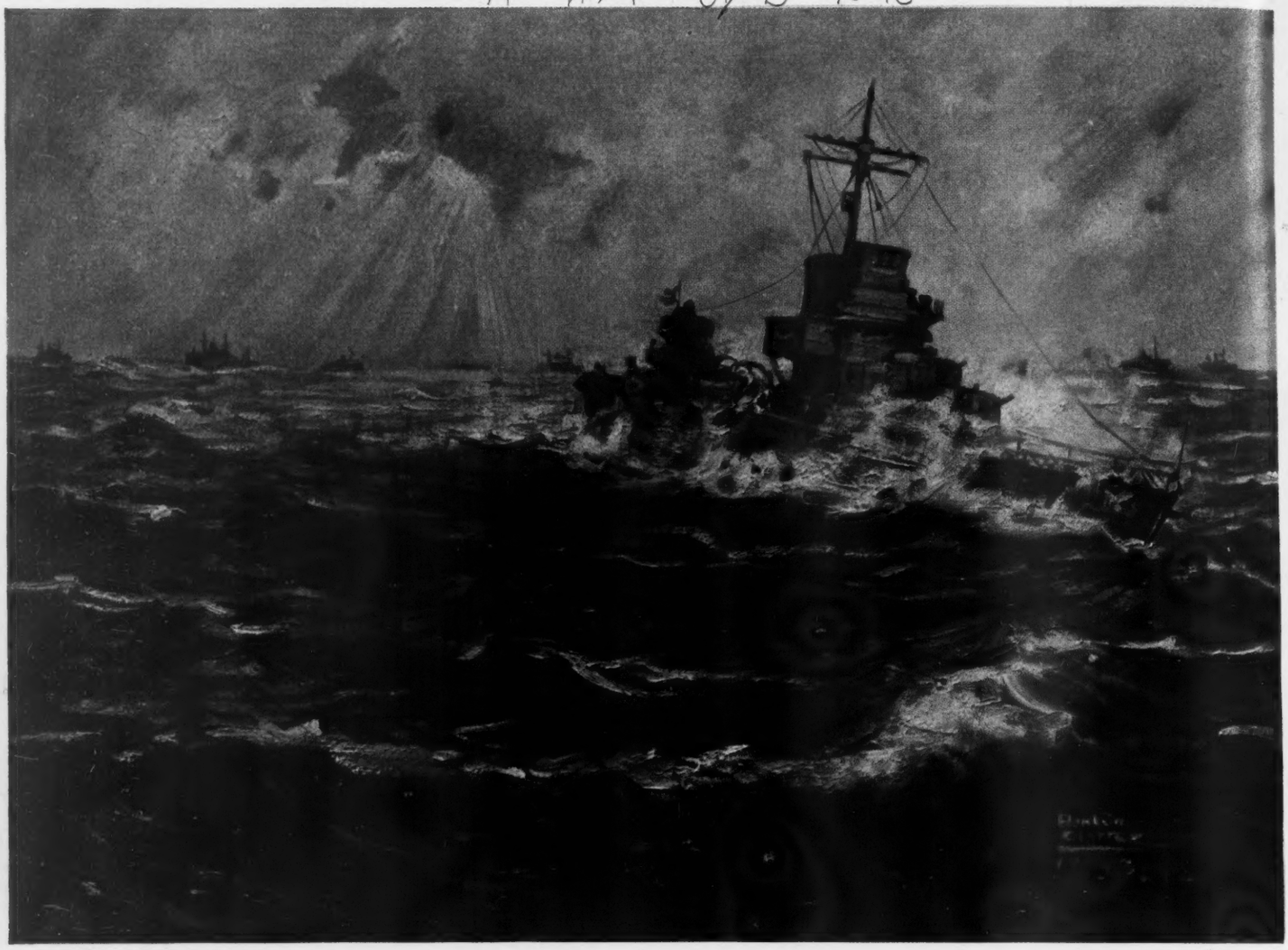

SH-H-H-H! THE ENEMY IS LISTENING!

● Sailors at sea couldn't listen to their favorite radio programs until one of our foremost radio manufacturers was commissioned to build a special sea-going receiver. It was found that ordinary radios "rebroadcast" and tipped off the ship's location. And without any radio, morale suffered.

Now, it's different! Sailors around the world are listening to radio programs from home through this low-radiation receiving set. The speed with which it was produced and put in service is a tribute, in part, to the *E·L* engineers asked to provide a suitable power supply. They did it—fast, and well.

This is just one of the many contributions to America's war effort which *E·L* research and specialized knowledge of vibrator power supplies and electronic circuits has made possible. You'll find *E·L* Vibrator Power Supplies on the job in all types of service, and on every front where the United Nations are fighting.

Wherever electric current must be changed, in voltage, frequency or type, *E·L* Vibrator Power Supplies and Converters offer a wide range of advantages, for peace, as well as for war.

For Operating Radio Transmitters in Lifeboats—E·L Model S-1229-B Power Supply. Input Voltage, 12 Volts DC; Output Voltage, 500 Volts DC; Output Current, 175 MA; Dimensions, 7½" x 5½" x 6¼".

For Operating AC Radio Receivers from DC Current—E·L Model 262 Marine Power Supply. Input Voltage, 110 Volts DC; Output Voltage, 110 Volts AC; Output Power, 250 Volt-Amperes; Output Frequency, 60 Cycles; Dimensions, 10½" x 7⅝" x 8¼".

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LABORATORIES, INC.
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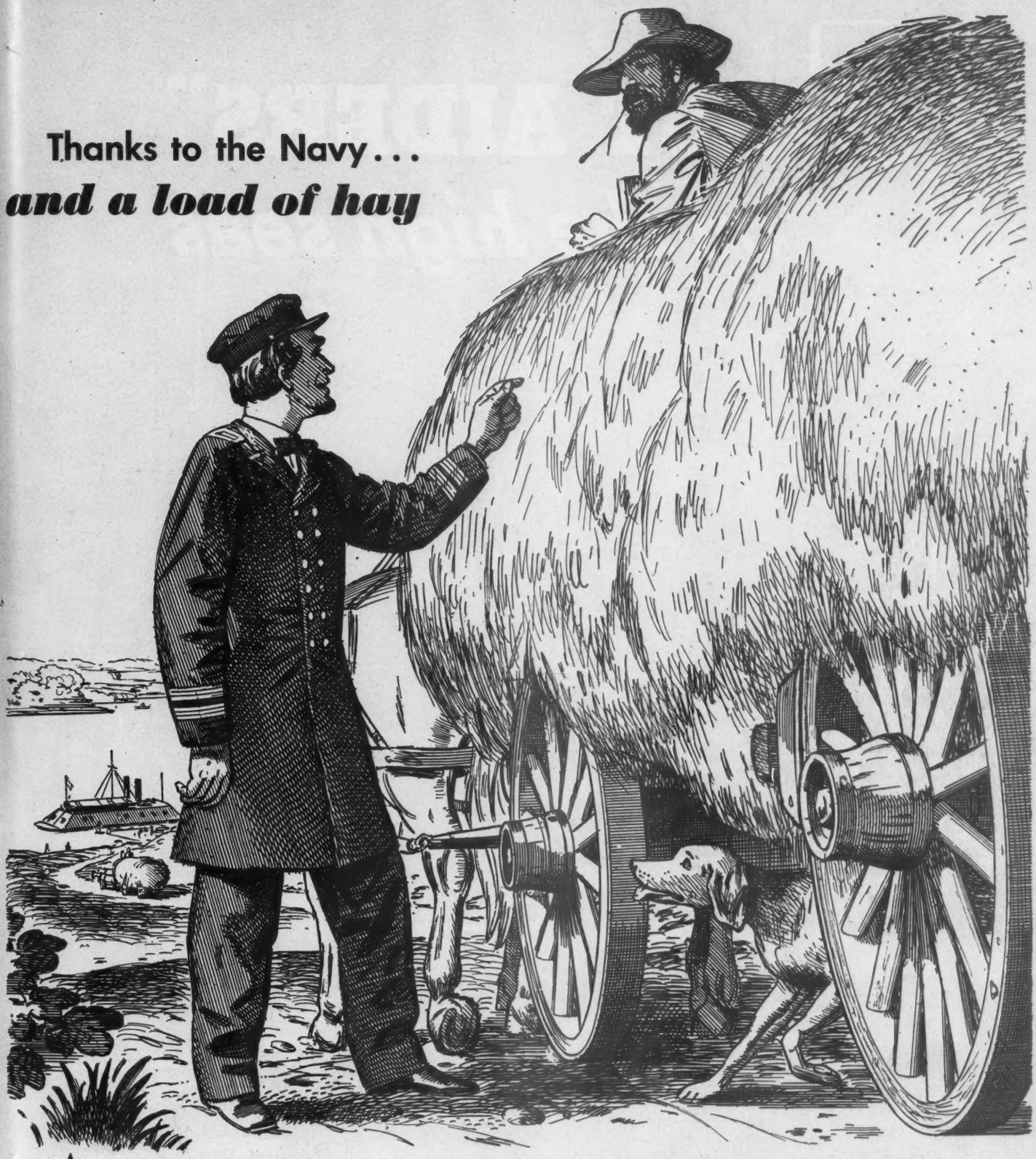
E·L ELECTRICAL PRODUCTS—Vibrator Power Supplies for Communications . . . Lighting . . . Electric Motor Operation . . . Electric, Electronic and other Equipment . . . on Land, Sea or in the Air.

YACHTING, July, 1943. Vol. 74, No. 1. Published monthly at 10 Ferry Street, Concord, N. H. Editorial, Circulation and Advertising Offices, 205 East 42nd Street, New York, N. Y. $4.00 a year, 50 cents a copy. Entered as Second-Class matter at the Post Office at Concord, N. H., under the Act of March 3, 1879.

Tech

Thanks to the Navy . . .
and a load of hay



ALMOST everyone knows of General Grant's campaigns in the West . . . but few know the help that he had from gunboats, hundreds of miles from the sea.

One of the most important actions was against famous Island No. 10. The Union Army, to advance against the western end of the Confederacy, had a great line of river forts to take. Island No. 10 was the first . . . and a tough one it was. Fortunately, fiery Commander Henry Walke had an idea. He covered the sides of his gunboat, the *Carondelet,* with loads of hay for extra protection, succeeded in running the gantlet . . . and soon brought his heavy guns to the Army's aid. No. 10 fell, and the road was open for the Union Armies.

Co-operation between Naval and land forces is playing a big part in this present war. Co-operation between the Navy, Coast Guard, and civilian yachtsmen is another great help. Offer your boat or your services to the U. S. Coast Guard Temporary Reserve. Keep your equipment shipshape, and obey the necessary rules for war-time operation of private craft. And remember, War Bonds help all branches of the service, too.

THE ELECTRIC STORAGE BATTERY COMPANY
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Exide Batteries of Canada, Limited, Toronto

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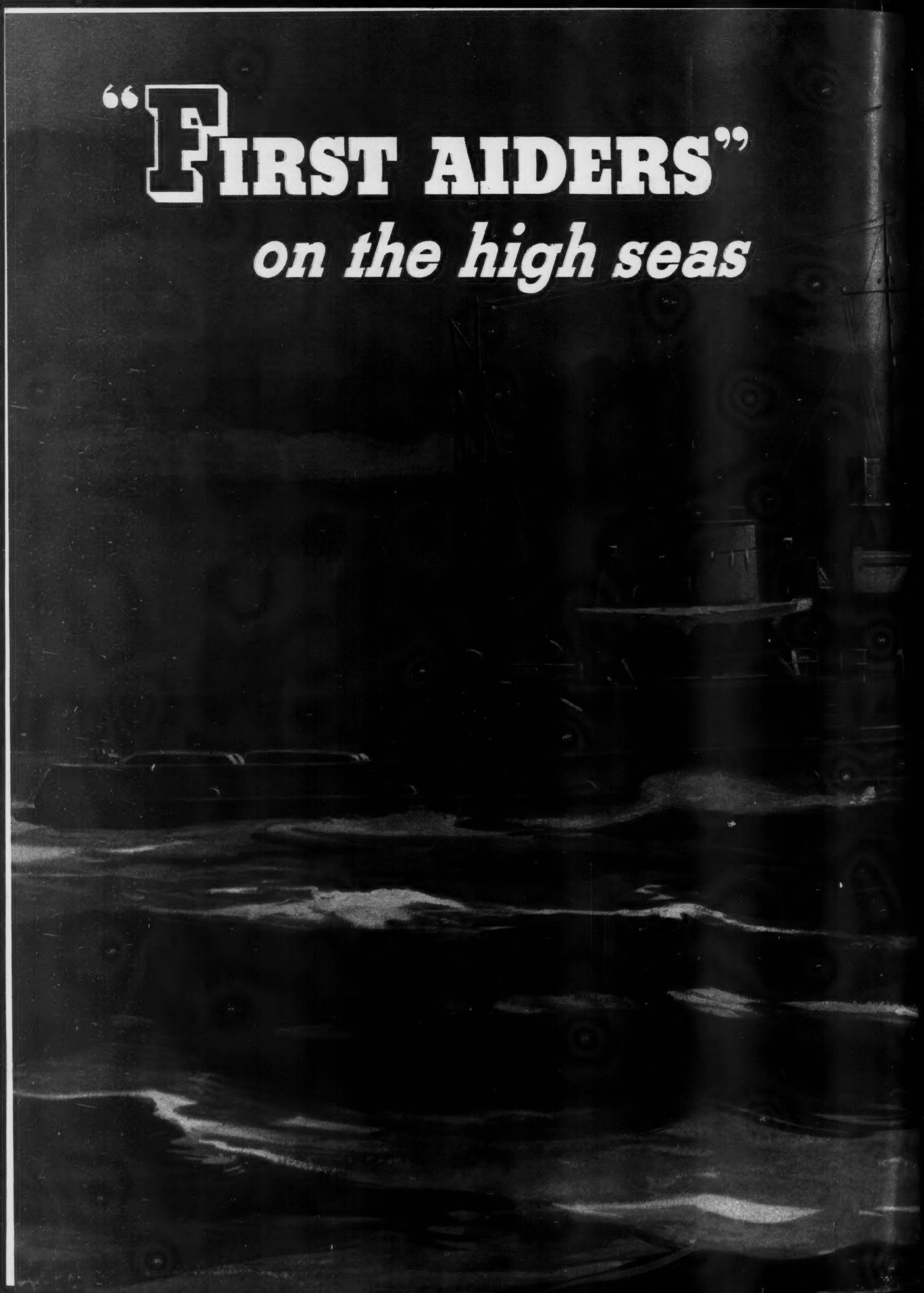
"FIRST AIDERS"
on the high seas

NO ships must be more dependable—none more able to keep doggedly at it—than these tough, deep-sea rescue tugs. Already they've saved several million tons of shipping.

Both America's and Britain's Navies have fleets of them in service—powered by reliable General Motors Diesels.

And again these engines are turning in the same day-in-day-out fine job that they have in thousands of Navy, Coast Guard and commercial vessels.

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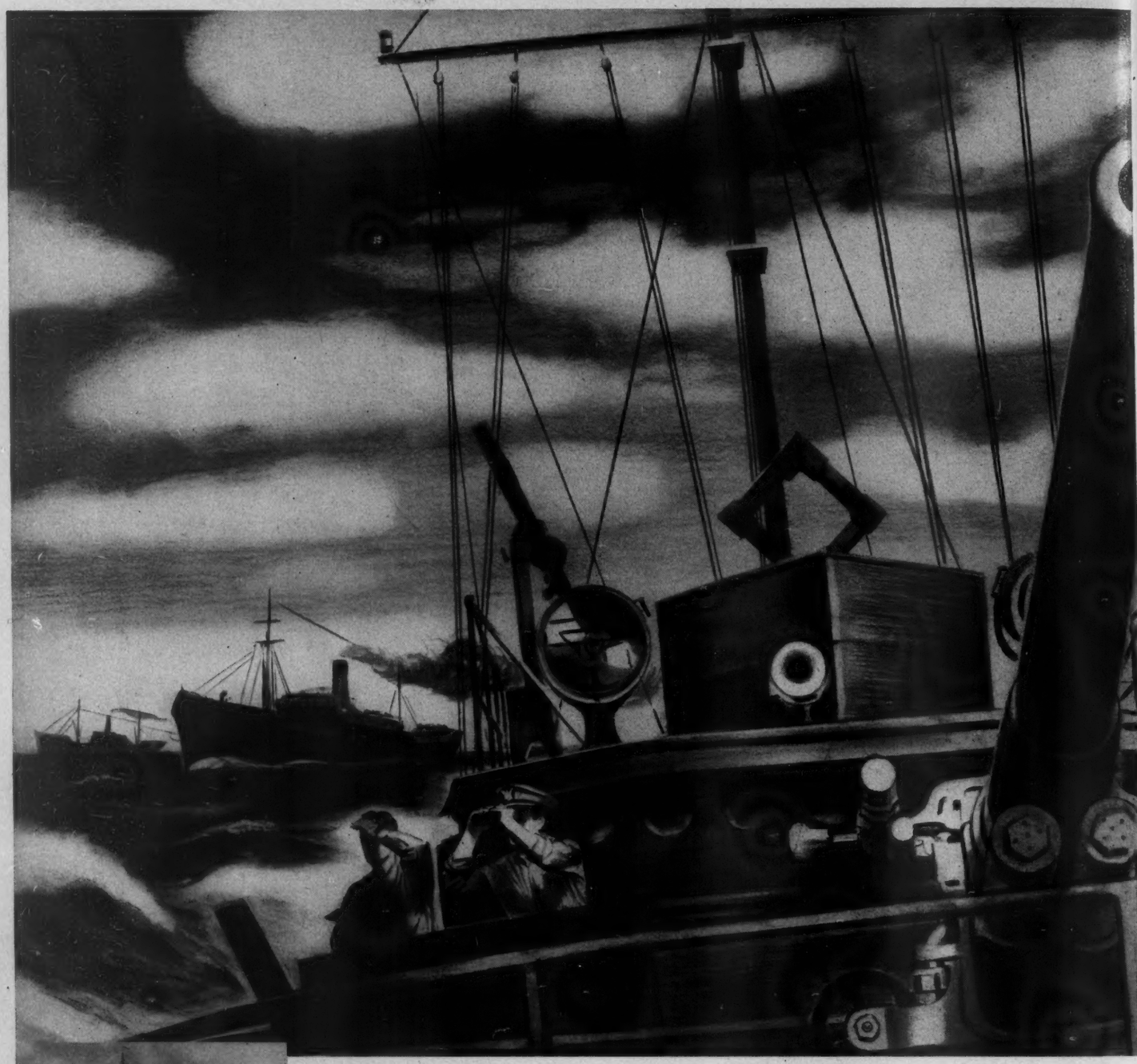


WE THINK OFTEN, for instance, of LIEUTENANT ROBERT P. BARUCH, whose Jakobson-built boat Kirawan won the 1936 Bermuda race. Now this skilled navigator and yachtsman is commanding a PC boat, escorting Atlantic convoys. We don't envy the U-boats that try to cross his course.

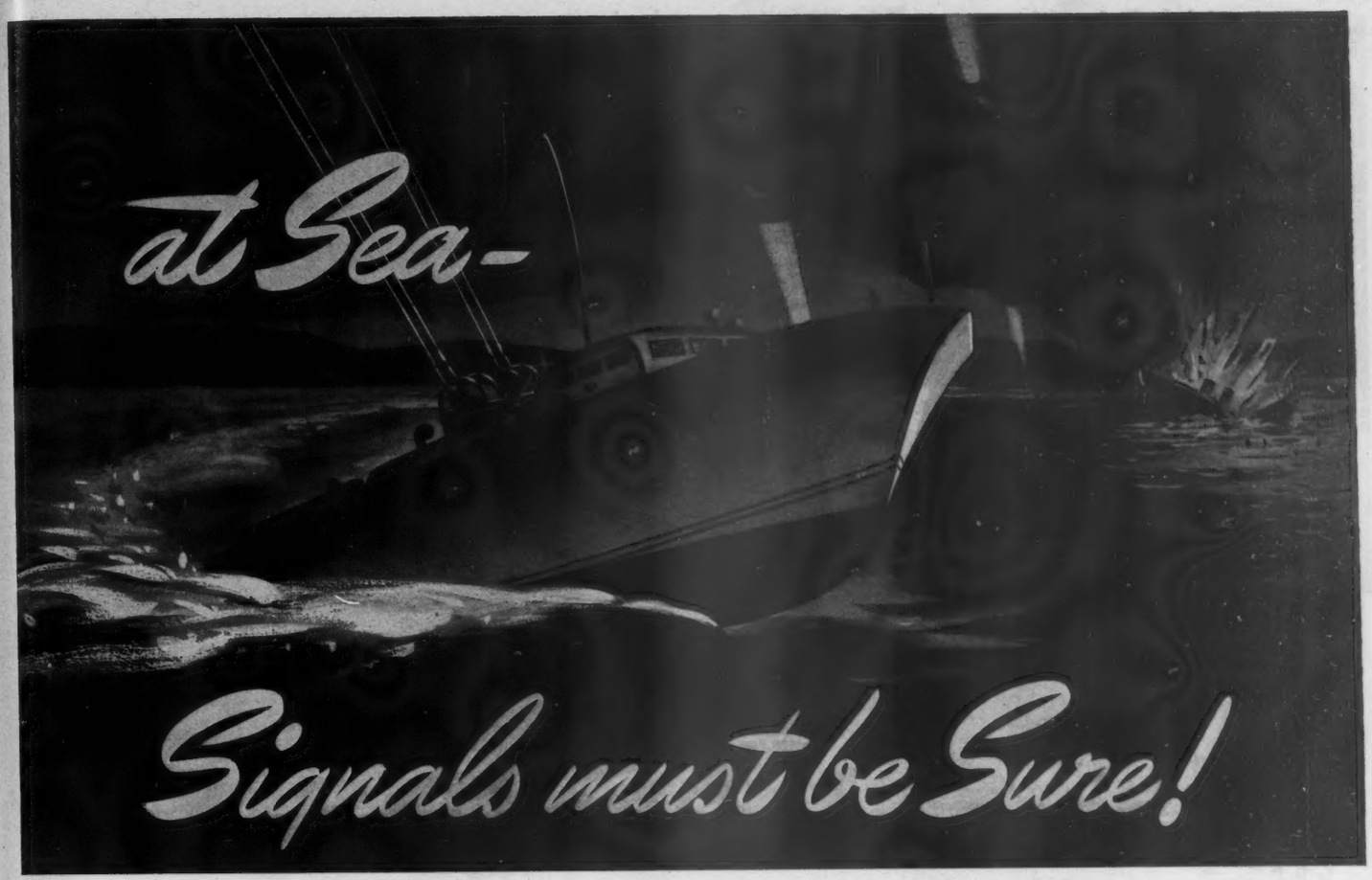
ON THE JOB!

Back and forth across nameless seas, regardless of danger and hardships, secretly, without fanfare or farewell, the convoys and their escort ships ply their stubborn way. On the bridge and on the decks there's many a former yachtsman.

Grimly they watch, ready to strike first the oppressor who would strike freedom dead, and all who believe in it too. These amateurs are professionals now. Not a cup, but a world's at stake. What must be done, they're prepared to do . . . and count no cost too great if they get the convoy through.

JAKOBSON SHIPYARD, INC.

OYSTER BAY • NEW YORK



Whether your specification calls for horn, bell or buzzer — the signal must be absolutely dependable, and have the power to do its job regardless of conditions. Schwarze-Faraday Audible Electric Signals provide a variety of tone to cover every need — they include Navy and Merchant Marine types — they are of most advanced design — and exceed requirements of official specifications.

Easy installation and saving of critical materials were considered in designing these marine signals. They give you peak performance. Absolutely watertight, of course. Every type, shape and sound that you want — are illustrated fully in the Schwarze Marine Catalog No. 43-M, now ready.

Precision panels and other Schwarze equipment is widely used in air and marine craft in this war, and will be available for peace time development.

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ASK SCHWARZE TO RECOMMEND THE TYPE TO SUIT.

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CHARLEVOIX · *The Beautiful* · MICHIGAN

July, 1943

Dear Friends:

Someday - and we hope it's soon - we'll be building your "Dream Boat" . . . that Overnighter . . . Weekender . . . or Day Cruiser.

We're 100% in war work now - but we've never forgotten it. As busy as our engineers are, working long hours on their war jobs, they can't resist jotting down and storing away the new discoveries we are making each day . . . for your "Dream Boat" tomorrow.

Are you planning too? Are you storing away War Bond savings for the day when your "Dream Boat" will be a reality?

Meanwhile, plan your vacation in Charlevoix, Michigan's Resort City on Three Lakes, where "group" cruises - for gas conservation - and plenty of sailing craft promise ample recreation on the water.

We'll gladly send details on Charlevoix's charms. Just mail us a card today.

Cordially,

Hy Foster

President

SPEED is the thing the wolf-pack fears

Sub-Buster—These heroic fighters typify the spirit of the Coast Guard. From the rolling wastes of the North Atlantic to the smoking jungles of the South Seas, they stalk Axis pig boats.

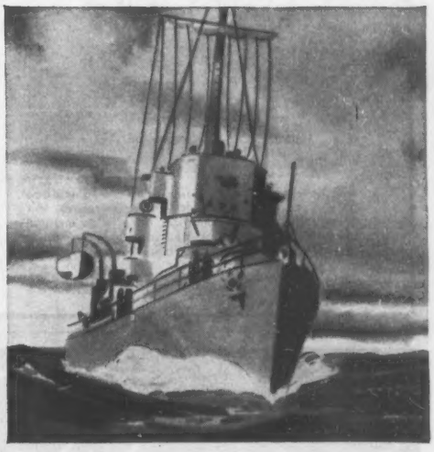
America cheered as the story of the Coast Guard cutter Campbell flashed across the wires.

Twelve alarms in one night — five subs driven to questionable safety of the deep seas in crash dives . . . the sixth sub was sighted off the bow at dawn.

Engines roared, propellers churned . . . gun crews jumped to action . . . gunfire crashed . . . action closed so rapidly that guns soon could not be brought to bear. At full speed the Campbell rammed the sub, and sent her to the bottom.

It is gratifying to know that Federal-Mogul Marine propellers are adding vital speed to so many allied fighting craft in this global sea war.

Our humble part is to "keep 'em turning." To step up propeller efficiency. To be ready . . . when men sail for fun again with improvements as important as those that are speeding death for the pig boats now. Federal-Mogul Marine, 4036 Beaufait Ave., Detroit, Mich.



They'll get the Convoys through! These new DE's, bristling with power, guns and depth charges are the Navy's most recent anti-submarine weapon. Trim, fast and deadly, as the Axis have learned in combat, you'll hear much of them in days to come.

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BROKERS

Represented, DETROIT MIAMI LOS ANGELES

C. P. AMORY, DISTRIBUTOR INC.
Fine Motor Yachts *Marine Insurance*
Deal Building, 99-28th Street
Newport News, Virginia

32' sloop, a fine custom job, priced low. Here is a boat that will meet the yachtsman's most exact demands on a practical cruising job. Very fast and able.

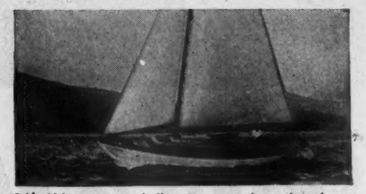
37' Casey designed and built C. B. yawl. Condition good. Many fine extras. Built in 1929 and in good condition thruout. Will stand rigid inspection.

40' Diesel motor sailer. A fine deep sea fishing boat, as well as ideal cruiser for family purposes. Very heavily built. Good condition. Here is an unusually attractive proposition for the exacting yachtsman. Let us give you more information about her.

27' sloop, built in 1933, kept like new and in splendid condition.

36' Alden double ender, a fine boat, built 1939, heavily constructed. A fine family cruiser, sleeps four. Toilet, large galley, both alcohol and coal burning Shipmate. Just overhauled and in splendid condition. Sails good, almost new. Price low.

27' Bermuda rigged auxiliary cutter. A beautifully designed and built boat. Principal dimensions: 27' x 23' x 8' 10" x 4' 4". A good sailer, comfortable. Condition excellent.



36' Alden cutter, similar to coastwiser, though we think much better boat. Just overhauled and like new. Seven sails, five new. Sleeps four. Gray auxiliary, condition fine.

28' 6" sloop, almost new. Condition perfect. Auxiliary power. Sleeps four. Able, fast and dry.

A fine 100 h.p. Hall-Scott, 3:1 reduction gear motor, completely rebuilt. Also one 121 Gray new motor, direct drive.

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For Sale — Fast 43' Rhodes auxiliary cutter. Sleeps six. Mackinac winner in 1939 and 1940.

For Sale or Charter — Eldredge-McInnis 48' auxiliary schooner. Sleeps six. Fully found.

★ ★ ★

For Sale — Sparkman & Stephens 43' auxiliary sloop with new sails, rigging and motor.

★ ★ ★

Wanted — Coastwise Cruiser or Week Ender.

FOR CHARTER

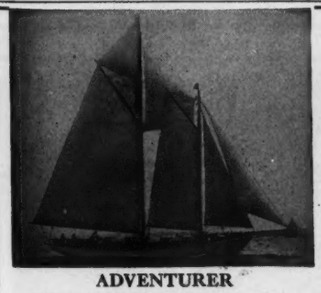
NEW AUXILIARY YAWL

39' x 29' x 10' 6" x 6'

Casey-built in 1942. Complete cruising racing (10 light sails) equipment including all fuels. All latest improvements — fluorescent lighting, 2 stoves, radio, awning, etc. In commission in Buzzards Bay and Marblehead. $250 per week. Will guarantee minimum of 5 excellent sailing days. Responsible yachtsmen only. Reply Box 702, care YACHTING, 205 East 42nd Street, New York, N. Y.

YOUR ENGINE WANTED TO HELP WIN THE WAR

For full details, read the editorial on page 13, and the advertisement on page 98.



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52' Post Built Alden Schooner-Yacht

Would make excellent boat for offshore patrol. Write for details.

also

47' Heavily constructed, twin-screw power boat.

Two Herreshoff H-23 Class Sloops.

25' "SEAGOIN" motor sailer, slightly used as a demonstrator.

Large assortment of good power boats, auxiliary sailboats and small day sailing boats. Several of the power boats would make good Coast Defense boats or small freight or passenger boats.

FRANKLIN G. POST & SON, INC.
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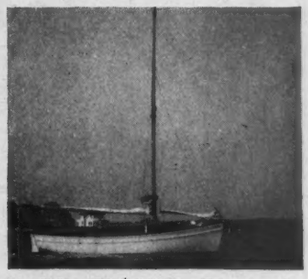
ELDREDGE-McINNIS, INC.

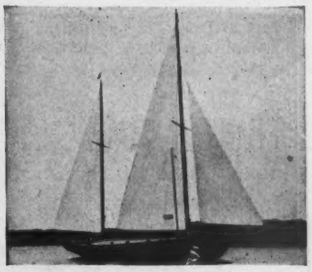
131 State Street, Boston, Mass.

YACHT BROKERS Telephone HUBbard 2910 NAVAL ARCHITECTS

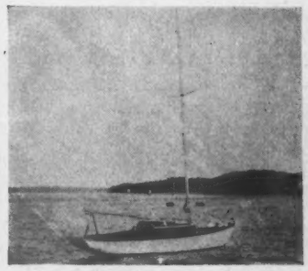


No. 5252 — FOR SALE — 30' motor-sailer by Warner, built in 1937. Sleeps three in main cabin and single berth forward. Compact galley and toilet room accessible fore and aft.

No. 4738 — FOR SALE — Very roomy shoal draft 31' Casey cutter. Sleeps five with double stateroom forward.



No. 5246 — FOR SALE — Auxiliary centerboard ketch, 41' 9" x 12' x 3' 11". Sleeps six. Ideal boat for Cape waters. Located in Massachusetts.



No. 5253 — FOR SALE — Smart sailer, 29' 4" x 8' 6" x 4' 8". Designed by Phil Rhodes, built 1935. Quality boat, completely equipped, and reasonably priced.

YACHT SALES & SERVICE, INC.

Naval Architects, Yacht Brokers, Marine Insurance and Appraisals

1528 WALNUT STREET **PHILADELPHIA, PA.**

No. 1488 — FOR SALE — 53' Alden schooner in excellent condition and powered with new diesel motor. Accommodations for six and crew of two. For further particulars and appointment for inspection, communicate with YACHT SALES & SERVICE, Inc., 1528 Walnut Street, Philadelphia, Penna.

No. 1713 — FOR SALE — 38' fast auxiliary cutter with accommodations for four. Boat in splendid condition and includes many extras. For further particulars and appointment for inspection, communicate with YACHT SALES & SERVICE, Inc., 1528 Walnut Street, Philadelphia, Penna.

For Sale

SHOAL DRAFT JIB-HEADED SLOOP

No. 1814 — FOR SALE — 36' 6" x 11' 2" x 3' 9" with centerboard up. This attractive shoal draft sloop is available for inspection by appointment. Built in 1935 from designs by Alden. Sails, rigging and all other equipment in excellent condition. Detailed information will be gladly forwarded on request to YACHT SALES & SERVICE, Inc., 1528 Walnut Street, Philadelphia, Penna.

SPARKMAN & STEPHENS INCORPORATED

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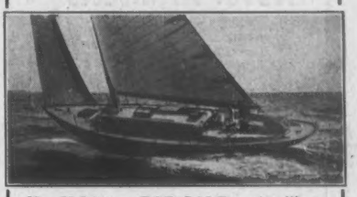
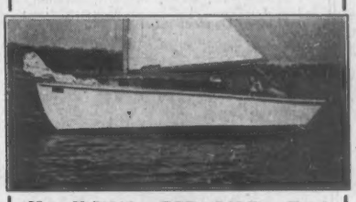


No. Y-7500 — FOR SALE — Auxiliary sloop, 45' 4" x 32' x 10' 7" x 6' 6". Built by Nevins in 1936 from our designs. Two berths in main cabin, double stateroom, lavatory and galley. Ratsey sails. For further data consult SPARKMAN & STEPHENS, Inc., 11 East 44th Street, New York. Tel. VA 6-2326.

No. Y-8427 — FOR SALE — Auxiliary ketch, 40' 3" x 31' 11" x 10' 10" x 5' 6". Built in 1937 from designs by Crocker. Three berths in main cabin, double stateroom, lavatory and galley. For further data consult SPARKMAN & STEPHENS, Inc., 11 East 44th Street, New York. Tel. VA 6-2326.



No. Y-70114 — FOR SALE — Shoal draft auxiliary sloop, 25' 6" x 20' x 9' x 2' 6". Built in 1940. Sleeps three. For further information, price and location consult SPARKMAN & STEPHENS, Inc., 11 East 44th Street, New York. Tel. VA 6-2326.

No. Y-7926 — FOR SALE — Moderate draft sloop, 37' 3" x 28' x 9' 10" x 4' 11". Built in 1939 from designs by P. L. Rhodes. Main cabin, double stateroom, lavatory and galley. For further data consult SPARKMAN & STEPHENS, Inc., 11 East 44th Street, New York. Tel. VA 6-2326.

No. Y-4218 — FOR SALE — Sloop rigged motor sailer, 30' x 27' 2" x 10' 3" x 4'. Built from Warner's designs in 1937. Sleeping accommodations for four, lavatory, galley. For further data, price and location consult SPARKMAN & STEPHENS, Inc., 11 East 44th Street, New York. Tel. VA 6-2326.

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131 State Street, Boston ▪ Tel.: CAPitol 9480

No. 326 — The best of our older MALABAR JRS, built by Lawley; four berths in cabin; galley, toilet, forward; Kermath motor. 30' o.a., 9' 9" beam. Fine condition; laid up in Connecticut.

No. 5198 — Fishers Island 31½ footer built by Herreshoff in 1926 to special order. Has new rig and interior; two sets of sails, one used only three times. Boat like new. In commission near Boston.

No. 675 — One of the best of our Coastwise Cruisers laid up in New York. 36' 5" o.a., 26' l.w.l., 9' 9" beam; roomy cabin, galley aft, double stateroom forward, toilet amidships, large engine. Has fine racing record, many extras, A-1 shape.

Here's a star "star" for you!

WON EVERY RACE ENTERED IN 1942

The best known of the "Rascals" and probably the outstanding star in the country today. Designed and built by Purdy Boat Company in 1941 after years of experience, study and tests. All special Duralumin fittings . . . highly developed single spreader rig . . . stainless steel rigging with Tru-Loc fittings . . . magnificent sails. Boat in perfect condition and ready to sail.

Lack of former time for sailing is my misfortune and your good luck—for both boat and price are right!

FRANK E. CAMPBELL

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94' Diesel Schooner. Suitable for cargo conversion ▪ 73' Steel Cargo vessel ▪ 42' A.C.F. Cruiser — New 1937. New Diesel engines 1941 ▪ 28' Auxiliary Sloop ▪ 68' Lawley built Cruiser.

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LIST YOUR BOAT WITH BLIVEN!!

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Boat Yard Site For Sale

Well protected deep harbor, 550 feet water front, 690 feet wharf space, full riparian rights, graded marine railway site, 200,000 square feet of well graded space, railroad connections, paved roads, city electric and water supply, county taxes, clear title, no debts, materials for one building on hand. 8-room new modern residence on property. Located in skilled boat building labor district near best Eastern United States boat market, property is suitable for the construction of wooden boats up to 100 ft. in length. Price $40,000. Reply Box No. 701, care of YACHTING, 205 East 42nd St., New York, N. Y.

YOUR ENGINE *WANTED* TO HELP WIN THE WAR

For full details, read the editorial on page 13, and the advertisement on page 98.

FOR SALE

Atlantic and Interclub Mainsails. Slightly used. Egyptian duck. Genoa — 36′ x 57′ 10″ x 57′ 3″; Ballooner — 29′ x 66′ x 56′ 6″; Jib Topsail — 30′ 6″ x 71′ x 51′ 9″. **R. TOBIN & SON, 349 West 12th Street, New York.**

Star 1951, "FLYING COLORS" for Sale

Top racing condition. All modern rigging, fully equipped, 2 suits of sail, 1 Ratsey bought late 1940, full cut for light weather; second sail, Prescott Wilson, 1939, for heavy weather. No trades, or brokers. First fair cash offer accepted. Reply Box No. 705, care of YACHTING, 205 East 42nd Street, New York, N. Y.

FOR SALE

Marconi centerboard sloop 34 ft., sleeps three to five, toilet, galley, ice-box, light sail, fully equipped, 1941 superfour Universal motor. Everything in first class shape. Ready to sail from mooring Tripp's boatyard, Westport Point, Mass. $2200. Reply Box No. 703, care of YACHTING, 205 East 42nd Street, New York, N. Y.

SAILBOAT WANTED

Wanted: Auxiliary keel cruising sailboat about 30′. Must be in good condition. Preferably, but not necessarily, located on Long Island Sound. Please send full particulars and photos if possible. Latter promptly returned. Box 707.

FOR SALE

Wheeler sedan, 32 ft., built 1936. Chrysler 90 h.p. reduction gear, mahogany planked, excellent condition.

FRANK AMBROSE
WHITESTONE, NEW YORK

• SWAP CHEST •

8 cents a word — $1.50 minimum

Please send remittance with order

Plans for Sale or Swap for Cutler or Lubbock books, New Zealand Tisman Sea Cruiser, sleeps two, 23′ 1″ x 18′ x 7′ x 4′. Price $20.00. Box 7–1.

Wanted: An International "14" in good condition for cash. Replies state particulars of sails, hull, rigging, equipment, trailer, price, etc. Box 7–2.

Wanted: Marine draftsmen's spline or batten weights ("Ducks"). Desire lead; will consider other. Also parallel sided splines. Will swap cash. Box 7–3.

Will Swap for Cash: Mooring chain, black, ¼ inch, 51 feet, with shackle. Make offer. Box 7–4.

Will Swap good solid mahogany ship's folding dining table. Need any of the following: canvas dinghy cover 10′, searchlight, small white china wash basin. Box 7–6.

Wanted for cash: A Snipe in good condition. Box 7–7.

I offer Prescott Wilson sails. Used one year. Main 21′ luff, 9′ on foot, Jib 7′ 6″ luff, 17′ 6″ on foot. $25.00. Track, stays, blocks, miscellaneous fittings $10.00. Box 7–8.

Wanted: Marine engines to be used for war purposes. See details on pages 13 and 98.

Swap for cash: De Luxe Penguin dinghy, bronze fastened, bright mahogany except planking, airplane spruce spars, good sail by Larsen, used one season.

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Offshore Navigator, by Capt. Warwick M. Tompkins. Step-by-step through the process of finding latitude and longitude through the use of *H.O. 211*, one of the simplest methods of navigation. $2.00

Primer of Navigation, by George W. Mixter. A complete course in piloting is presented in the opening chapters. Celestial navigation has been simplified, only simple arithmetic is needed. Complete with tables, fully illustrated. $4.00

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Piloting, Seamanship and Small Boat Handling, by Charles F. Chapman. New 1943 edition of this classic text for beginners. Used in the Power Squadron's elementary classes all over the country. 320 pages, amply illustrated. $2.50

Seamanship, by Charles F. Chapman. A fine new book by this well-known authority. Illus. $1.00

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Wire Splicing, by R. Scot Skirving. Clear text and good illustrations. $1.50

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Knots, Splices and Fancy Work, by Charles L. Spencer. Also contains information on wire splicing, tables of breaking strength. Illustrated. $3.50

DESIGNING AND BUILDING

Elements of Yacht Design, by Norman L. Skene. This book is a standard in its field, indispensable to naval architects, boat builders and yachtsmen. Revised to date. $3.50

Yacht Designing and Planning, by Howard I. Chapelle. A textbook on Naval Architecture for the amateur. Illustrated. $4.25

Boatbuilding, by Howard I. Chapelle. The complete handbook on wooden boat construction. Takes the amateur from choosing the right design to the final varnishing. Illustrated. $5.00

Laying Down and Taking Off, by Charles Desmond. A guide for mold loftsmen. $2.00

Wooden Shipbuilding, by Charles Desmond. A general work devoted to larger vessels. $10.00

Small Boat Building, by Edwin Monk. Plans and complete building instructions for a number of boats, power and sail, from an 8′ pram to a 17′ auxiliary. $3.00

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Yacht Racing Rules & Tactics, by Gordon C. Aymar. Rules and maneuvers illustrated by sequence photos of Star boat models. $4.00

Men Against the Rule, by Charles Lane Poor. A century of progress in yacht design, this book discusses the history of the measurement rule and its effect on design and speed. A "must" book. Was $10.00. Now only $2.50

Learning to Race, by H. A. Calahan. The principles of yacht racing explained in a most lucid manner. Illustrated. $2.50

ATTENTION, BOAT AND SHIP YARDS

A number of yards have found it profitable to establish reference libraries of books on boat designing and building for their workers. While a few such books are listed above, there are a number of others for which there is not room on this page. We shall be glad to supply lists and prices on request.

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The A B C of Boat Sailing, by Herbert L. Stone, Editor of YACHTING. An excellent book for the beginner with many maneuvers illustrated with diagrams. $2.00

Sailing Made Easy — Told in Pictures, by Rufus G. Smith. A photo-and-caption book with remarkable, specially-taken, series pictures illustrating each step. The best way we know of to learn to sail without such an experienced skipper at your side. $3.50

Start 'Em Sailing, by Gordon C. Aymar. Designed to tell the beginner all he needs to know to handle a small sailboat. Illustrated. $2.00

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The Galley Guide, by Alex. W. Moffat. Recipes for shipboard from the simplest rough weather breakfast to course dinners, and drinks. No technical terms to confuse the amateur cook. $2.00

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IT WAS ELEVEN O'CLOCK on a dark tropical night when twenty Jap destroyers entered "Torpedo Junction," a battle-churned stretch of water off the coast of Guadalcanal. The ships were supported by night fighters and bombers in a last attempt to carry reinforcements to Jap troops trapped on the island's northwest tip.

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The Navy's dauntless PT men must often rush in where angels fear to tread. Their daring and resourcefulness, plus the mile-a-minute speed and amazing agility of their Elco-built craft, make possible the dash-in, dash-out tactics that have won so many battles against seemingly impossible odds.

New Elco PTs — faster, harder-hitting than ever — are being turned out daily, thanks to your continued purchase of War Bonds. They afford a big chance to more and more young men of courage and initiative who crave heroic action at close grips with the enemy.

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VOL. LXXIV JULY, 1943 NO. 1

HAVE YOU AN ENGINE WHICH YOU CAN GIVE UP?

THE PACE of war production has been so fast and furious for the past year and a half that in certain instances some programs have outstripped others, and vital equipment is not always to be had when needed. As a case in point, the requirements for power life boats to equip our tremendous fleet of new cargo ships have called for the building of thousands of these life-saving craft. In many cases, the hulls of these boats have been completed without engines to power them being on hand. Engines for replacements in the fishing fleet that supplies much of the nation's food are also difficult to get in the face of other demands on the engine builders' resources and allotment of materials.

Due to this condition, the suggestion has been made both by boatbuilders working on government order, and by engine builders who have many calls for replacements that they cannot meet, that owners of pleasure boats not being used might be willing to turn in and sell their engines for immediate use in this vital war need. Many power boats will be laid up this summer, what with gasoline restrictions and other prohibitions. Other owners will not want to use their boats for the duration. Their engines will thus be standing idle when they might be put to real purpose in the war effort. An advertisement in this issue of YACHTING, in making an appeal to boat owners, shows how urgent the need is. It is understood that suitable engines will be bought and paid for. Inasmuch as engines in boats not in use will deteriorate, it would seem that boat owners should be glad to help. If you are not using your boat, or if you can get along without her for the duration, here is a way you can serve. When war demands are over, new engines should be readily available after the cessation of hostilities. At least, that's the best judgment of the engine industry at the present time.

Plans for new priorities for additional material to be used in new engines and spares for replacement purposes have, we understand, been made and will go in effect July 1st. But the results of this will not be felt for several months, and even then the new priorities probably will not be able to supply the full demand. YACHTING will be glad to put those who may have engines they can spare in touch with those who can use them.

A NEW OFFICER IN THE SHIP

IT IS a pleasure to announce the recent election to the office of Vice President of YACHTING of Carl Kappes, Jr., who for the last four years has been Advertising Director of the Corporation. Having been connected with the magazine for the past nine years, Carl Kappes needs no introduction to those who read, or who use the advertising pages of, YACHTING. His elevation to the responsibilities of an officer of the old ship is a recognition of his worth as a member of the afterguard.

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IN THE WIND

▶ "What's all the shootin' about?" inquired Emperor Hirohito of his Prime Minister shortly after our boys landed on Attu. . . .

"There's a war on, O Son of Heaven," replied the flatulent P.M., surreptitiously taking a bite out of a raw fish which he had filched from the Royal Pantry. . . .

"Well, I'm a son-of-a-gun!" gasped the imbecile imperator, thereby establishing a record for what is popularly termed a Masterpiece of Understatement. . . .

▶ The way of the hard coal miner is soft. . . .

▶ Start of the yacht racing season was auspicious in these latitudes with twenty-four sail counted on the opening day of the Echo Bay Yacht Club's regatta at New Rochelle. . . . And a nostalgic note was sounded by the fact that Sherman Hoyt, at the helm of Joseph L. Merrill's *Feather*, brought her home a winner in the International Class, again demonstrating his incomparable ability to sail anything better than anybody else — most of the time. . . .

ÇA VA SANS DIRE

"I'd rather be shot
Than commit hara-kiri,"
Said a Jap to his gal. . . .
Said she, "You *will* be, dearie!"
— *Wilde Wave*

▶ It's reported that they may take the telephones out of our homes this summer because there's a shortage of instruments and no replacements are being manufactured. . . . If that happens, a lot of people will stop speaking to each other. . . .

Most of us could dispense with the telephone bill — but not the telephone. . . . "Hello" would become as extinct as the Dodo. . . .

Can it be that the Telephone Company's days are numbered? . . . .

▶ Westbrook Pegler's mordant, sometimes eloquent, diatribes have frequently enchanted me and I never expected to find the scribe guilty of a *canard*. . . . However, he began a paragraph recently with

"As the tug *tied loose* from the *Navajo*. . . ."

Maybe I've just never heard the expression but somehow it doesn't sound nautical — or even sensible. . . .

▶ And even the erudite John Kieran, omniscient ornament of Information Please, has apologized for having referred in his newspaper column to the speed of submarines submerged as "seven to nine knots *per hour*. . . ."

Shockin' ignorance. . . . Where has he been gettin' his nautical information, please? . . . .

▶ There's an interesting exhibit in a shop window on Forty-seventh Street just east of Madison Avenue, including some lovely marine models and other examples of handicraft made by our prisoners of war. . . . All the items are for sale for the benefit of the craftsmen and are most reasonably priced. . . . The project is called the *War Prisoners Aid*. . . . It extends to all the belligerent nations and is sponsored by the Y.M.C.A. . . . .

▶ A merchant mariner ashore here in New York with a couple of $500 bills told a policeman he couldn't get anything to eat because no restaurant would change them and the banks were closed. . . . He should have tried one of the prominent night clubs where bills of that denomination are commensurate with the price levels for chow. . . .

▶ Reports from Buffalo have it that four Richardson Boat Company execs recently completed a cruise on the Chesapeake and discovered a condition "Spun Yarn" has never disclosed present in his favored cruising ground. Herb Hill, Jim Nogle, Wells Moot and Leon Travis rounded out the ship's company and want to know why Alf has not advised that temperatures would bump a hundred degrees during the first week in June. Travie, ship's cook, tried to serve Herb Hill for a lobster dinner but his shipmates would rather have had minced buzzard and might have found it more palatable, so Herb was spared and they settled for crab meat. Supt. Jim can never be sold a Florida trip after cruising the Chesapeake during the summer month of June.

Marsh Kennedy, Sr., of the Youngstown Y.C., Lake Ontario, is reported to have alighted at last and become owner of a Casey sloop. We are willing to believe when we see her "in the flesh."

▶ The coffee men have been roasting the O.P.A. . . .

They don't fancy the roll-back idea. . . . Most customers like a roll with their Java. . . .

▶ In United Nations lingo, gas is now officially known as petrol. . . . But that doesn't make it, unfortunately, any less scarce. . . .

▶ From the Headquarters of the South Atlantic Force, Russel (*Pop*) Corey writes:

"Well, in this far off land we have officers who were formerly yachtsmen of note. . . . Often, with the aid of a little White Horse of uncertain parentage, we cruise again in retrospect the waters of Long Island Sound — and re-race Larchmont Week. . . . Incidentally, all of us wish we could swap a few stripes of gold braid for the old pair of yellow flannels and Topsider shoes. . . ."

▶ What the United Nations Food Conference should have been concentrating on was blue plates instead of blue prints. . . .

Their discussion of 100 cases of liquor was highly satisfactory, however. . . .

Since the gentlemen of the press were excluded, there was almost enough for the delegates. . . .

▶ Last month "Spun Yarn" discovered Minga Allen, heroine of *Rivers of Glory*, who, as this compartment pointed out some months before, was so tenuous that she could obtain relief from the Caribbean heat by seeking "the shade of the main sheet. . . ."

What grieves me about this is that obviously my gifted contemporary doesn't read my column and that I inevitably read *his*. . . . It seems to me us engines ought to be reciprocating. . . .

▶ Since he published his autobiography, Mr. Ickes has become noticeably less unpopular. . . . Probably because he admits to more faults than his critics ever accused him of. . . .

And a preposition is no word to end a sentence with — either. . . .

▶ A six-page memorandum issued by the O.P.A. said, "The drawers of all stenographers are to be numbered as follows: 1 — 2 — 3. . . ." The memo was hastily recalled because, officials explained, "it was felt that the public would not understand desk procedure and the O.P.A. would be held up to ridicule. . . ."

Surely the O.P.A. isn't dumb enough to think the public would be naïve enough to believe the memo referred to the other kind of drawers — which were obsolete before Pearl Harbor.

▶ Naïve Nadine, the flighty Marine, has become so nautical that she thinks a headhunter is a guy aboard ship looking for the gent's powder room. . . .

▶ It was a gala opening day at Larchmont, with a brave wind for the second of the special regatta series on the Sound. . . . Charley Vanderlaan's *Minkie II* and Van Wyck Loomis's *Hound* were only a second apart at the finish in the Atlantic Class after completing a nine-mile course. . . .

CHANTY

Right in the seat — oh,
We're kicking Hirohito
He's going down to defeat — oh,
Along with fat Benito.

TELLTALE

Helping Build the Army's Bridges

"Bridges quickly built where wanted". . . might well be a slogan of the Army's resourceful Corps of Engineers. When a river blocks the movement of thousands of troops, minutes are priceless . . . and the Engineers waste none of them!

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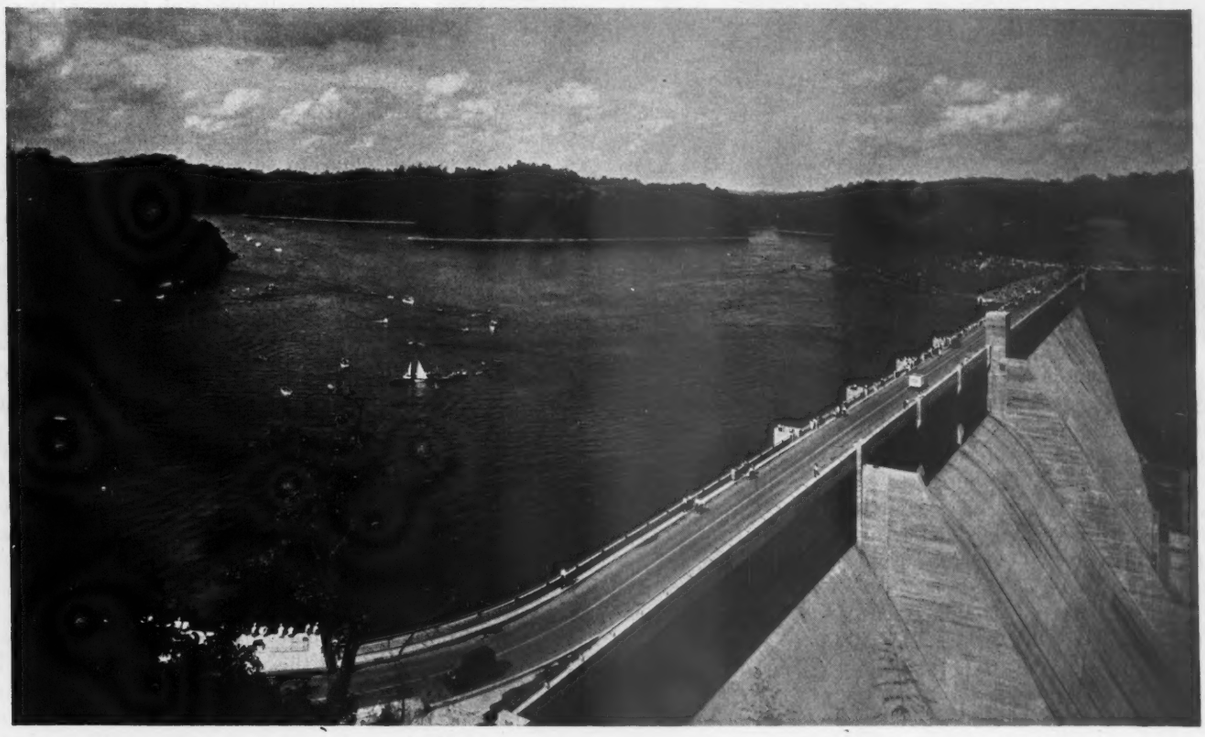
INVASION SPEARHEAD

Months of training in small boat landing tactics paved the way for operations such as this, photographed during the invasion of Attu, Aleutian Islands.

Official U. S. Navy Photo

YACHTING

Volume LXXIV JULY + 1943 Number 1



Lake Norris, one of the principal centers of yachting activity in the man-made "Great Lakes of the South"

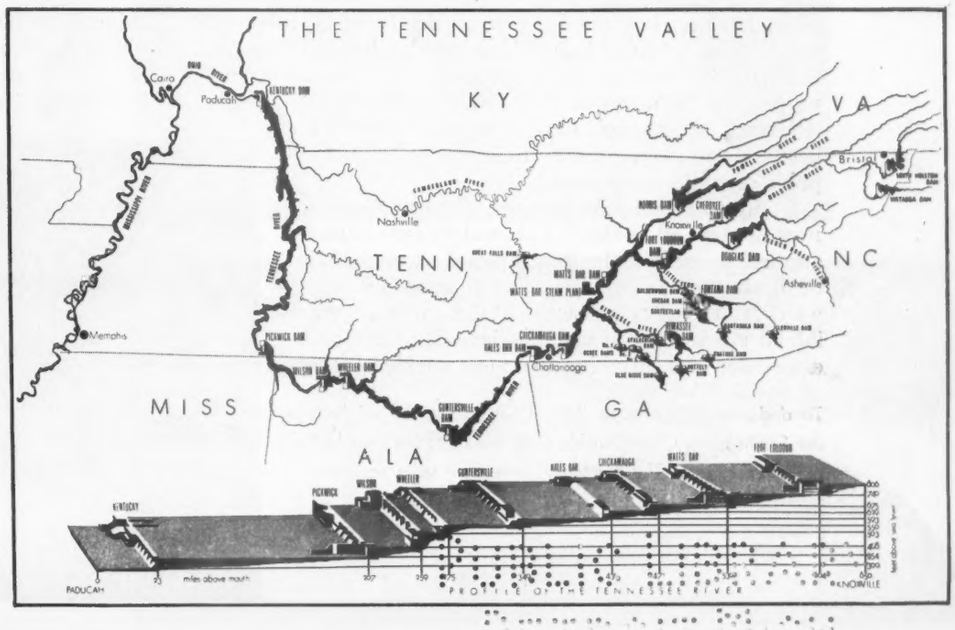
DOWN WHERE THE LAKES BEGIN

By CRITCHELL RIMINGTON

TIME was when yachtsmen, like milkmen, were fundamentally creatures of fixed habits and traditionally ordained practices. Anyone living more than 50 miles from deep water was considered a landlubber, and it was nothing less than rank heresy to mention the words "rivers" and "yachting" in one and the same breath. But times have changed and, with the many technological marine developments such as standardized production, plywood hulls, plastic fittings, Nylon sails and automatic self-steerers, the characteristics of the sport have broadened with the times and have been brought down to the level of John Q. Public's interests and pocketbook.

As an inevitable consequence — or, perhaps, as a result of such developments — yachting geography has experienced radical and highly desirable changes. No longer can the nation's coastal regions and the larger inland lakes be considered the principal centers of boating activity, for in recent years inland yachting, in terms of rivers and man-made lakes, has been growing at such a pace that inland areas may well show the largest per capita boat ownership in the post-war years.

Excluding the Great Lakes as well as the larger ones of the Middle West (which have long been among the most active yachting centers in the world), the salt water yachtsman is too quick in assuming that the term "inland yachting" refers solely to small fresh-water lakes and a few of the larger rivers. Any such definition invariably brings to mind muddy streams of uncertain depths and swift-flowing



Neither Maine nor Minnesota, but an outboard regatta on the T.V.A.'s 46,000-acre Pickwick Lake in West Tennessee. 25,000 spectators witnessed this one event

currents, or of lakes so small that voyaging in anything larger than a small knockabout would be highly hazardous. Such an assumption is anything but the truth. Today, as a result of long range plans initiated shortly after the last war, the Government's far-flung program to improve inland waterways and to create artificial lakes for purposes of flood control, navigation and as sources of hydroelectric power has not only achieved its designed purpose but has also created thousands upon thousands of miles of navigable lakes and streams which have become the mecca for countless numbers of inland sailors.

And here and now it should be pointed out that, while on the subject of the tearing down of illusions, the character of the vessels to be found on these waters will come as a rude awakening to the "salt water or nothing" school of thought. For on these inland seas are to be found a vast multitude of the smaller sailing classes as well as auxiliaries capable of offshore passages, runabouts and fishermen, seagoing houseboats and twin-engined cruisers, and — in ever-increasing numbers — scores of outboard-propelled open boats of every conceivable shape, size and type.

Although much has been written of Nevada's and Arizona's Lake Mead (Boulder Dam), Idaho's Pend d'Oreille and Coeur D'Alene, Missouri's Lake of the Ozarks, Lake Utah and Washington's Grand Coulee Dam (which impounds a lake 151 miles in length), American yachtsmen have been told far from enough of the biggest of them all, the T.V.A.'s Tennessee River Lakes. Often referred to as the "Great Lakes of the South," these nine man-made lakes form a continuous arc across the heart of the southeast between Knoxville, Tennessee, and Paducah, Kentucky. The commercial importance of this vast natural waterway which has been harnessed to provide flood control and power for America's "Ruhr Valley" has been no less significant to the industrial development than has been its recreational importance to Tennessee and the neighboring states of Georgia, Alabama, Mississippi, Kentucky and Virginia, for here is a new playground — huge, unspoiled and capable of endless expansion.

In proper seamanlike manner, a chart (charts are now used on all of the T.V.A. waterways) must be studied to explain the geographical characteristics of this former lakeless area. The Tennessee River — which, in the days before the T.V.A., was a typical inland stream whose vagaries included flooding in one season and shrinking to a mere trickle in others — has its beginnings in Virginia, and winds in a southwesterly direction through the eastern extremity of Tennessee, and then dives into Alabama where it again abruptly reverses its course to cross Tennessee once more, heading almost true north. Thereafter, widening as it goes, it enters Kentucky and at Paducah joins the Ohio to flow into the Mississippi and thence to the sea. Nine huge dams, which lift the river a total of 508 feet, have been built along this vast waterway, resulting in the following astronomical statistics: 900 square miles of water, lakes totalling 1060 miles in length, 6000 miles of publicly owned shore line and a controlled and uninterrupted, year 'round channel for boats of 9-foot draft along its 650-mile course which has Knoxville, Tennessee, as its navigation head.

It was in 1933 that Congress passed the Tennessee Valley Authority Act. In the intervening ten years, the recreational possibilities of the area have grown in pace with the control of floods, the improvement of navigation and the utilization of resources for hydroelectric power. With the completion of each new dam, gradually transforming an uncurbed and silt-laden stream into a series of clear lakes, an astonishingly high percentage of the eighty million people who live within a 500-mile band around the watershed have taken to boating in a way that would bring joy to the saltiest mariner.

To be sure, this man-made waterway will never be the scene of a Whaler's Race or a Larchmont Week, but it is certainly no exaggeration to prophesy that in future years there will be an amount of racing and cruising that would put the average yachting area to shame. The increase in the number of boats to be found on Lake Norris proves the point: in 1936, there were 300; in 1937, 500; in 1938, 1200; in 1939, 1800; and in 1941, 2000. Of these totals, and exclusive of sailing craft, the number of boats on one lake consisted of 490 without motors, 1,130 outboards and 180 inboards. Approximately this same percentage of growth is to be found along the entire length of the waterway and, although the war has temporarily retarded this rate of increase, the marine development of the area is being completed in anticipation of the resurgence in yachting activity which will take place at the war's conclusion. Last year, for example, the boat docks on Wilson Lake increased their business from 75 to 100 per cent.

When the T.V.A. was established, the river channel from Paducah to Wilson Dam, 260 miles upstream, had a controlling depth of about 4 feet. From Wilson Dam to Chattanooga, a distance of 204 miles, the controlling depth was about 2 feet. Today, the construction of the remaining two

To dedicate Chickamauga Lake, Chattanooga played host to the Southeastern Championship outboard races the year before Pearl Harbor. The spectators came from miles around

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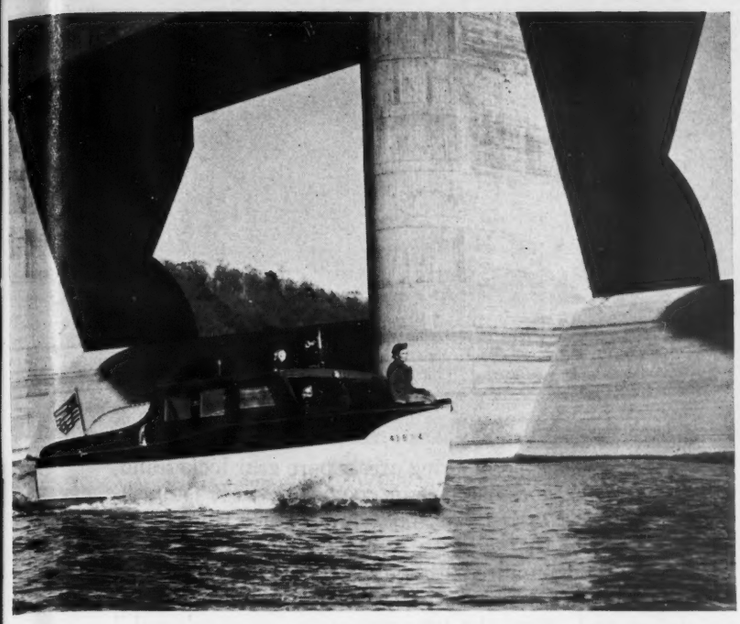


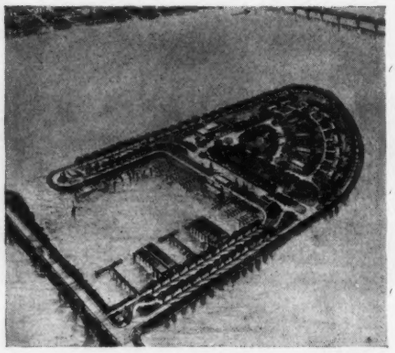
Who Wouldn't Sell His Farm And Go to Sea?

The lakes, inlets and river stretches of the T.V.A. waterways offer endless variety to the fisherman, day sailor or cruising yachtsman. Top left, the massive spillway openings of Norris Dam form an unconventional background. Right, the T.V.A.'s policies permit any individual to moor his boat free of charge at any point along the shore line but many yachtsmen prefer the marinas located throughout the system. Lower right, an 83-year-old boatman at the controls of his manually-propelled stern wheeler

One of the largest privately owned craft on the Tennessee Valley Lakes passing through Wheeler Reservoir bound for the Gulf

dams in the system is all but complete and the last link of the nine-foot channel all the way to Knoxville will be an actuality with the completion of Fort Loudoun Dam early next year. What this will do for Knoxville's yachtsmen is typical: today what appears to be a huge excavation for some towering office building is actually the site of tomorrow's municipal yacht basin, complete with clubhouse, docks and mooring basin. And all of this is as a result of one downstream dam which will raise the river some 12 feet.

Although a majority of this nautical face-lifting has done much to alter the geography of the Tennessee Valley, the main stream is still labelled a river in the most up-to-date atlas. But to call it such today is merely to use a figure of speech since, for all practical purposes, it consists of a series of nine main stream lakes (which river engineers refer to as "pools") which are connected, either directly or geographically, with 15 tributary ones. The larger of the group are of such dimensions that sailing vessels up to 40′ over all are not uncommon, although as yet the average sailer or auxiliary is rarely over 30′. The hills on either side of these larger lakes are low enough not to cause any complicating air streams, while all of the waterways are so well charted that piloting problems are reduced to a minimum.



The projected marina on Wheeler Lake which will have 64 boathouses and accommodations and slips for 150 boats

Lake Norris, one of the first to be completed, and widely known by reason of the fact that its name and that of the adjacent dam was taken from Senator Norris, the "Father of T.V.A.," is unique in that it is a detached body of water, the overflow of which is not navigable during any part of its short passage to the Tennessee. Opened in 1936, this lake quickly became a boating center for nearby Knoxville and today a majority of the fleet of the Knoxville Yacht Club is to be found there. The T.V.A. marina above the dam (see illustration page 19), which incorporates landing floats, mooring areas, floating boathouses and floating slips, is an outstanding example of a publicly owned and maintained yachting base.

Among the many attractive elements there are two aspects of this marina which will quickly catch the eye of the salt water yachtsman. There are floating boathouses, which are built by the owners who in turn pay a small rental for the space they occupy. Simple in design and ruggedly built, they provide a three-in-one mooring area, spare gear locker and, in some cases, a shore-based bunk room. But most astonishing of all is the Norris Lake "boatyard" which is located a mile or so from the water in a small gully on a hill top towering several hundred feet above the lake itself. Here cruisers, knockabouts and other craft are stored on individual dollies and, when the time comes to "go overboard," they are towed down the road and thence rolled into the lake on their own four-wheeled "launching ways." It makes the matter of going into commission a simple process indeed!

Although the many winding fingers of Lake Norris provide endless opportunities for short cruises, the fact that this waterway is landlocked has limited the character of its yachting activity. But, now that Knoxville has become a link on the main stream, it is expected that many owners of the larger boats will move them down to the river, for there they can cruise to the seven seas *via* the Tennessee, the Ohio and the Mississippi.

Many of the smaller marinas which are scattered through the entire waterways system are privately leased and do a thriving business renting outboards, canoes and fishing tackle. Fishing has become one of the most popular weekend occupations, for it has proven a pleasant and effective method of coupon stretching.

Lake Chickamauga, which has been formed by Chickamauga Dam just above Chattanooga, is an unbelievably beautiful body of water. It is the home of numerous yacht clubs, among the best known being the Chickamauga Yacht & Boat Club and the Privateer Club, and is the scene of every kind of boating activity. The lake boasts of a large sailing fleet (which is increasing every season), many houseboats and large cruisers, and has been the arena of countless outboard regattas. To the visiting yachtsman, it provides an impressive specimen of what can be found in the way of cruising facilities along this great inland waterway. The marina nearest the Dam is located in a small bay and offers every facility that could be desired by the yachtsman. Going downstream, the locks are found to be well attended and the keepers familiar with the handling of pleasure craft. There is no charge for going through these or any of the other locks, and no special permit is needed. Above and below the locks, the channel is clearly marked with conventional navigational markers. On the Lake — and along the entire waterway, for

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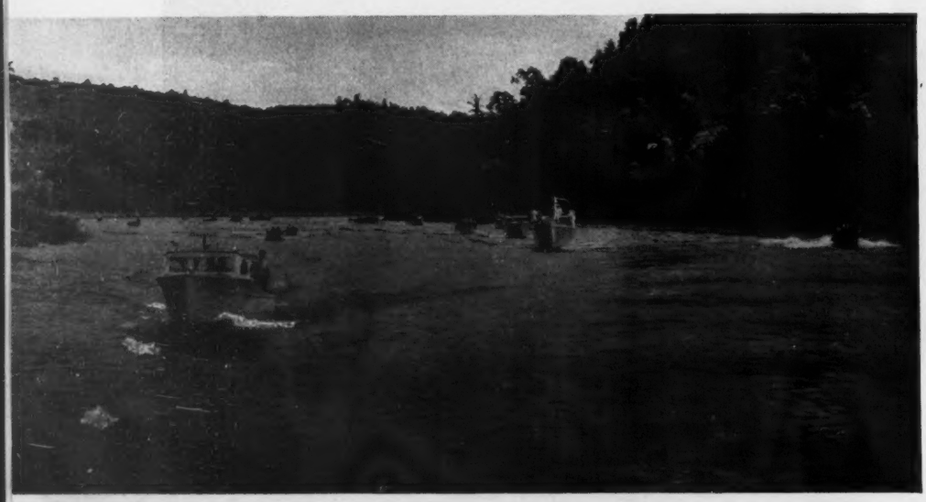


A flotilla of 30 boats on the Knoxville Yacht Club's annual summer cruise on Lake Norris

Official U. S. Coast Guard Photo

LSTs (Landing Ships—Tanks) are large seagoing vessels. This one, camouflaged and with ferry crew aboard, starts her long voyage to tidewater

FERRY COMMAND

From Countless Inland Yards, Warcraft Are Being Ferried Down the Mississippi to the Sea

By ROBERT H. HALE

Lieutenant, USNR

TO THE average citizen, the idea of Naval vessels operating on the inland rivers of our country would seem ridiculous. It would seem doubly ridiculous to him if he were told that not only are there many Naval vessels running down these rivers but that included are many truly important units of our combat force. But it is one-way traffic, for all these vessels, as well as smaller craft, are headed down stream only, in a steady flow from many building yards to tidewater. The great Mississippi River, the "Old Man River" of song and verse, is the main artery for this flow of traffic which originates from building yards on its many tributaries.

Possibly the largest and most important of these Naval vessels are the novel tank landing ships, known in the Navy as LSTs (Landing Ships–Tanks). These vessels, a development of the current war, will have a vital part in the coming invasion and landings on our enemy shores. Each one of them is a fighting unit in her own right, for she is armed with many and powerful weapons for use against enemy attacks from under the surface or in the air.

LSTs are being built at a number of different points on inland waterways, many of them on the Ohio River. The building yard that is most remote from tidewater is that of the Dravo Corporation at Pittsburgh, Pennsylvania. Others building LSTs on the Ohio River are: American Bridge Co., Ambridge, Pennsylvania; Jeffersonville Boat & Machine Co., Jeffersonville, Indiana; and Missouri Valley Bridge & Iron Co., Evansville, Indiana. On the Illinois River, LSTs are being built by Chicago Bridge & Iron Co., Seneca, Illinois. Although the building of these vessels was slow at first, the pace at the yards gained rapidly until now the actual deliveries of the ships are in volume and at a rate increasing daily. To insure a rapidity of building commensurate with the need, the building yards frequently let out sub-contracts for the supply of many materials and parts; into the yards is a steady flow of completed or partly completed materials to be built into or used in the finished ship.

When the building of these large vessels on the inland rivers was first conceived, one of the major problems facing the Navy was their delivery to tidewater upon completion. Various factors had to be considered, particularly important being the least depth of the rivers during periods of extreme drought. For this reason, building yards located on such rivers as the Missouri and the Tennessee had to be eliminated from consideration. When the Navy made plans for the operation of the LSTs down these rivers, it wisely chose the organization best set up to do it, the United States Coast Guard. A word about the Coast Guard.

The St. Louis Coast Guard District has had many years of experience on these inland rivers. Floods and droughts and ever-changing river channels are with them the order of the day. The level of the river (known as river stage) is perpetually moving. It is always "flood tide" or "ebb tide" but, unlike the sea, the time of the flood and the ebb are uncertain. Even in an average year, the difference between high

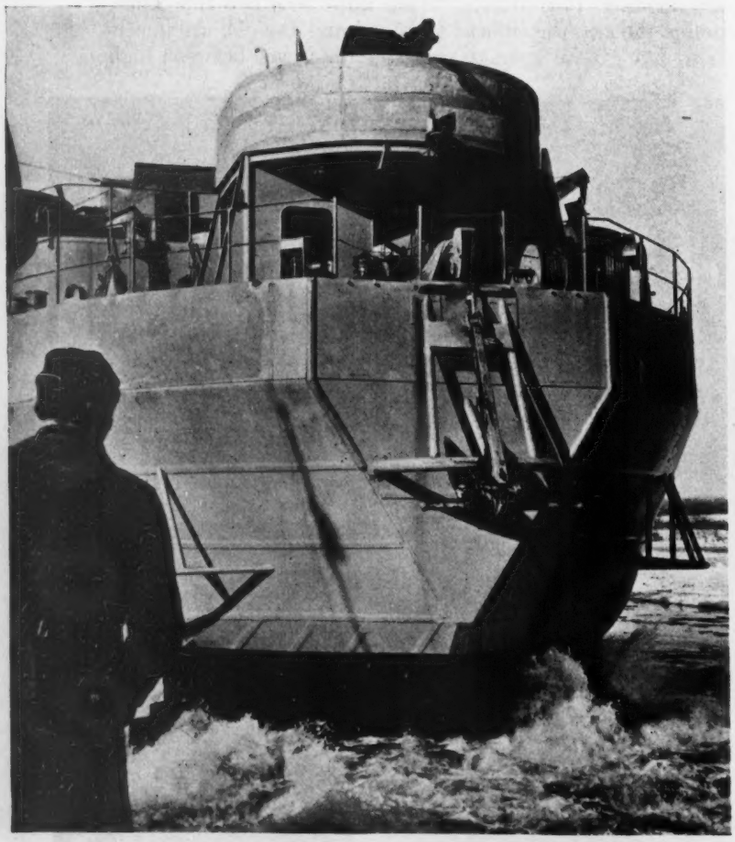
A Coast Guard icebreaker clears the way for an LST during a winter river passage. Official U. S. Coast Guard Photo

Ice remains a major problem during winter delivery trips but the Coast Guard has accomplished miracles in keeping the channels open

St. Louis Post-Dispatch Photo

water stage and low water stage is 30 feet or more. At times of flood, this difference is much greater. A low stage of the river brings problems of sufficient water to float the vessels. A high stage presents the problem of vertical clearance under the bridges. All the bridges on the Ohio and Mississippi Rivers are fixed — that is, there are no drawbridges. At times of flood, the current in the rivers at some places reaches a speed of eight miles an hour. (All distances and speeds on the inland rivers are figured in terms of statute miles.) In average or normal times, the river currents run about two to four miles an hour. The many locks present problems. More about these later. Under the direction of the Coast Guard, these many problems and hazards to navigation have been mastered and the ships are daily moving down the rivers to tidewater. The officers primarily responsible for this operation are Captain Stephen S. Yeandle, the Senior Officer of the St. Louis District, and his Chief of Staff, Commander Beckwith Jordan. They are assisted by a large staff of officers and men in the headquarters office. It is interesting to note that the St. Louis District is geographically the largest of any of the Coast Guard Districts; it includes the states of North Dakota, South Dakota, Nebraska, Iowa, Kansas, Missouri, Kentucky, Oklahoma, Tennessee, and West Virginia; it includes also parts of the states of Minnesota, Wisconsin, Illinois, Indiana, Ohio, Arkansas, Mississippi, and Alabama.

To the salt water sailor, dams that fold up might be interesting. There are 42 such dams on the Ohio River between Pittsburgh and Cairo, where the Ohio joins the Mississippi. In addition to these dams that fold, known as wicket dams, there are four fixed dams on this same stretch of river, a distance of about 1000 miles. The wickets that make these dams are rectangular, of wood reënforced with steel, about four feet wide and more than twice as long. Each wicket is on a horizontal hinge on the river bed, the hinge being on the narrow edge of the wicket. The wickets are adjacent to each other and run the full width of the river at the particular point installed, except for the locks and bear traps. The bear traps are a form of adjustable spillway for excess water. At times of an "open river," the wickets are down, lying horizontal on the river bottom, and river traffic goes over them, by-passing the locks. When the river is "closed," the wickets are up and river traffic must go through the locks. The wickets are held up by strong steel supporting arms, similar to the back support of an artist's easel. When the river stage becomes low to a certain point, the wickets are raised to conserve the water in the pools. (The pools are the bodies of river water backed up and held by the closed dams.) When the water rises to a certain point, the wickets are lowered again and there is "open river."



Suspended from the LST's curiously shaped stern is a heavy duty Danforth anchor. St. Louis Post-Dispatch Photo

At the inception of the inland building program, it was immediately apparent that one of the major problems was going to be the matter of keeping the Illinois and upper Mississippi free of ice during winter months. Unless this was done, no deliveries would be possible for three or four months of the year. Captain Yeandle was convinced that it could be done, but old-time river men smiled and labeled the plan "Yeandle's folly." The battle began in the fall of 1941 and since that time "Yeandle's folly" has proven to be Yeandle's foresight, for Coast Guard icebreakers and chartered tow boats — all fitted with special 85-ton Amsterdam type ice plows — have each year kept an open channel throughout the winter.

Fortunately for the delivery program of LSTs, the winter and spring months brought with them an open river but the droughts of the summer will mean less water and probably a closed river. A vessel will in this case have to lock through a total of 46 locks. This is a difficult and time-consuming task. Too, there are hazards involved — the possibility of damage to the ships and locks themselves. Locks must be approached slowly and then difficulty in handling is encountered on account of the difficulty of steering with little headway, on account of river currents, and sometimes on account of hard beam winds.

The actual operation of the LSTs down the rivers is by Navy officers and men under the direction of the District Coast Guard Officer at St. Louis; the Navy and Coast Guard are one in time of war. Local knowledge on these river trips is furnished by the pilots, who are usually chief warrant officers and warrant officers of the Coast Guard. These men had almost invariably been pilots on commercial river craft prior to the war and have a background of many years or even a lifetime of experience on the particular stretch of

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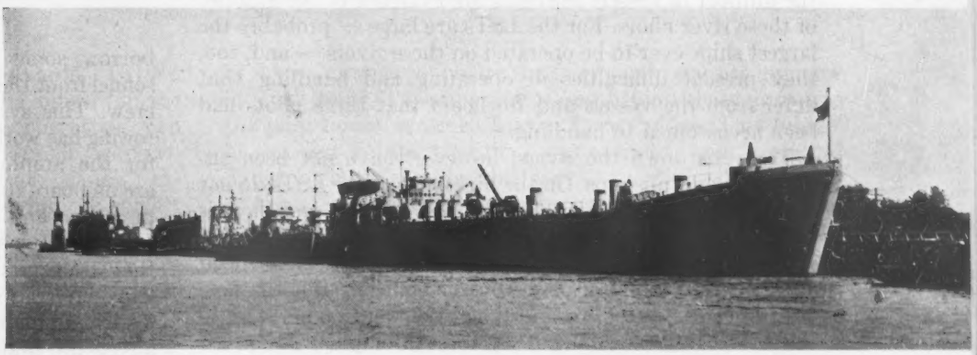

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All in a Day's Work for the Ferry Command

Down the Mississippi and its tributaries go the inland-built warcraft on their long and novel passages to tidewater. The complexities of ice, floods, low water, dams, locks and bridges are all in the day's work for the ferry crews. (1) One of the officers comes aboard. (2) Galley equipment is unpacked. (3) Come and get it! (4) Officers' mess. (5) An LST ready for launching at a busy Illinois River yard. (6) End of the voyage to tidewater, alongside the dock at the Naval Base, New Orleans. (7) A complicated bit of river nagivation is discussed between the LST's skipper and the pilot of an escorting Coast Guard cutter. (8) The Navy takes over an LST at the yard of the Jeffersonville Boat & Machine Co. Official U. S. Navy and Coast Guard Photos and St. Louis Post-Dispatch Photos.

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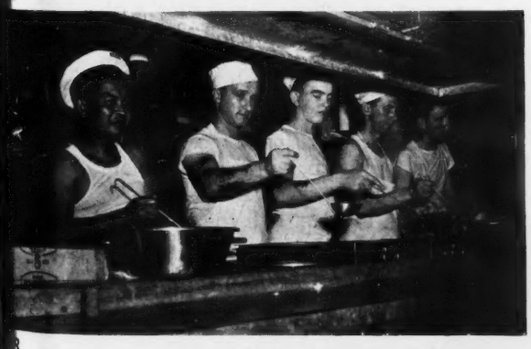

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river for which they are assigned. The river channels are undergoing almost constant change, particularly during times of flood or high water. The pilots must, therefore, know not only the rivers as they have been, but must keep abreast of the channel changes and the changes in lights and other aids to navigation. The many successful runs down the rivers and the number of vessels delivered are evidence of the abilities of these river pilots. For the LSTs are large — probably the largest ships ever to be operated on these rivers — and, too, they present difficulties in operating and handling that differ from the vessels and towboats that these pilots had been accustomed to handling.

The runs down the rivers, however, have not been entirely without mishaps. On the nights when the LSTs do not run, owing to fog or low visibility, they anchor, and there is the story of one that was rammed by a heavily loaded tow of steel coal barges. A jagged hole 24 feet in length was ripped open through the steel plates by the collision. But the hole was above the water line and the vessel went on her way to the U. S. Engineers Depot at West Memphis, Arkansas, where a repair was made in four days and nights of efficient work. Another LST went aground in the Mississippi below Memphis. The river was falling fast and she would soon have been high and dry on a sand bar, but again the U. S. Engineers proffered help and sent one of their dredges, floating the big hull in a time that would not have seemed possible.

The Army Engineers have been of great help to this delivery program in another important way. The wicket dams and locks of the Ohio River are in their charge, and operated by them. The Engineers are advised, sometimes in the middle of the night, of the passage of one of the LSTs and, if the river conditions permit, will lower the wickets of a whole series of dams to permit an expeditious passage. This means hard work, sometimes in bitter winter weather, by large forces of men working in the open and at any time of day or night. Great credit is due to the U. S. Army Engineers for their coöperation in this delivery program.

The regular Navy or Coast Guard amphibious crews, as well as ferry crews, board the vessels at the building yards, so that going down the rivers the total complement of each LST is something over 110 officers and men. For the most part, the amphibious crews travel as observers on these trips, the actual operation of the ships being by the ferry crews. Sometimes, however, it has been necessary for the ferry crew to borrow some of the personnel from the amphibious crew. This system of borrowing has worked out well, for the amphibious crews are on board for instruction purposes and to become acquainted with the ship they are to take over. At the tidewater port, the ferry crew leaves the ship and returns by train to take another ship. The amphibious crew takes over and starts on the great adventure that will win the War.

A Chief Warrant Officer at the controls of the Coast Guard icebreaker "Fern." He holds the rudder control in his right hand. The numerous engine controls are beside his left hand

St. Louis Post-Dispatch Photo

There is another smaller type of landing craft that is delivered *via* the rivers to tidewater. The LCTs (Landing Craft–Tanks) are a much smaller edition of the LSTs. These are important craft and are built in great numbers. Of course, owing to their smaller size, they carry many fewer tanks than the LSTs. The important difference, however, is that the LCTs are not designed and built for ocean crossings. The LCTs are carried across the seas near to the point of landings as deck loads on larger vessels. The Army tanks are on deck in the open, but this deck is protected by bulwarks four feet high. The Diesel engines are aft.

But a job is being done on the inland rivers as it is being done on the high seas. The Navy ships must be delivered when they are built and they are being delivered with speed and efficiency. The distance from Pittsburgh to New Orleans is about equal to the distance from New York to Liverpool. Whether it be an LST delivered on this run or an LCT built in Omaha (on the Missouri River), Nebraska, the ships are coming through and there are no delays except by fogs or pitch black nights when the river haze hangs low over the water.

Some time ago I had the pleasure of having Lt. N. L. Crabtree, USNR, Public Relations Officer at St. Louis, on board during a part of a down river passage. One afternoon I noticed him banging away at the ship's typewriter with commendable zeal and, upon examination, I found him to be preparing a first hand account of what goes on when an LST begins her long passage to tidewater. With his permission, I quote certain sections of it: "We're at Evansville, Ind., where LST Number — was commissioned recently and turned over to the Navy. It is four o'clock in the afternoon. One year ago today, this site was a barren river bank void of any particular activity. Today it is alive with the men who are responsible for this miracle of production. A few are experienced shipbuilders but the others are just average Americans, former farmers and tradesmen — many of whom have never seen the sea. Yet these men are now building the best landing barges this war-ridden world has ever seen.

"As dusk sets in, our small party came aboard. An air of excitement always attends a new ship on her maiden voyage. Last minute touches by the builders, the addition of refinements such as soap trays, electric fans, mirrors and so on. Then there is always the man with the bucket of paint busily touching up things here and there; and rest assured these

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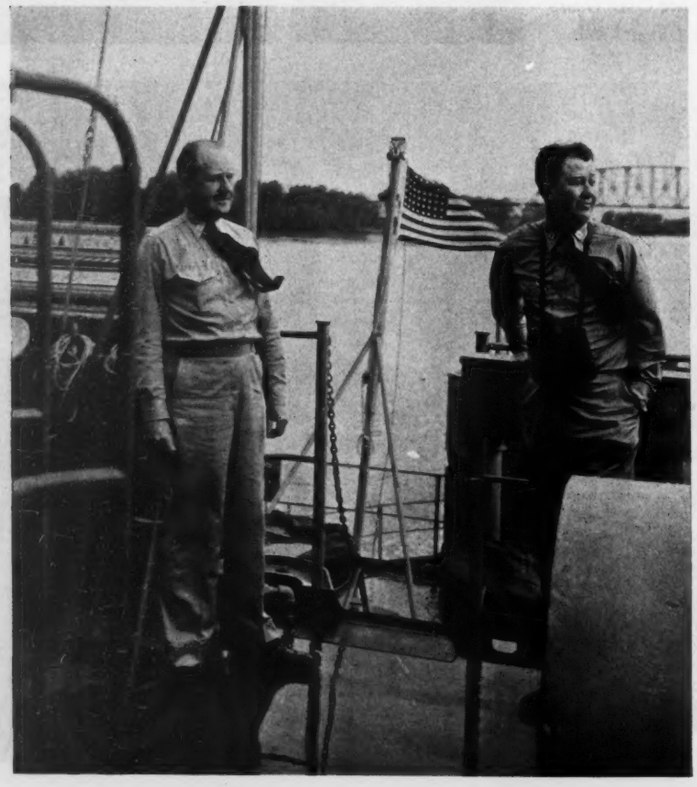


The author, Lt. Robert H. Hale, USNR (at left), and Lt. N. L. Crabtree, USNR, Public Relations Officer at St. Louis, look to "sea" from the deck of an LST bound down river. Official U. S. Navy Photo

INTRODUCTION TO A "DE"

Trim and Rakish, the Destroyer Escort is the Latest Word in Anti-Submarine Vessels

By ROBERT N. BAVIER, Jr.
Lieutenant, USNR

"DESTROYER bearing 045, 10,000 yards," bawled the crow's nest lookout. The officer of the deck, twenty feet below on the corvette's open bridge, waved an arm by way of acknowledgment, ordered recognition signals exchanged but, even after receiving the correct reply, continued gazing intently at the approaching ship.

"Couldn't be anything but a destroyer," he mused, but somehow she looked different. As the range closed and the early morning haze thinned, it became apparent that here was a new type of ship. Several minutes later, she swept by close aboard, her high bow slicing the waves and sweeping gracefully towards the sun. High on her flying bridge, her captain waved a cheery greeting to the chunky corvette. The crew, at gun stations and on deck, showed self-assurance in their stance. Here was a new ship and a proud one. On her flaring bow were the letters DE followed by her number.

The above scene took place a couple of months ago and by now must have been reënacted many times. Already several of the new destroyer escorts (a name we prefer to DE) are at sea escorting convoys and literally hundreds are on the way. They are our latest and most powerful bid for victory in one of the toughest fights of the war, the battle of the Atlantic against the German U boat. They are also destined to play a major rôle in the Pacific.

A few weeks ago, we went aboard one of the new DE's. We found her intensely interesting and got some pretty definite impressions about these ships on which so much depends. Perhaps you would like to hear about her.

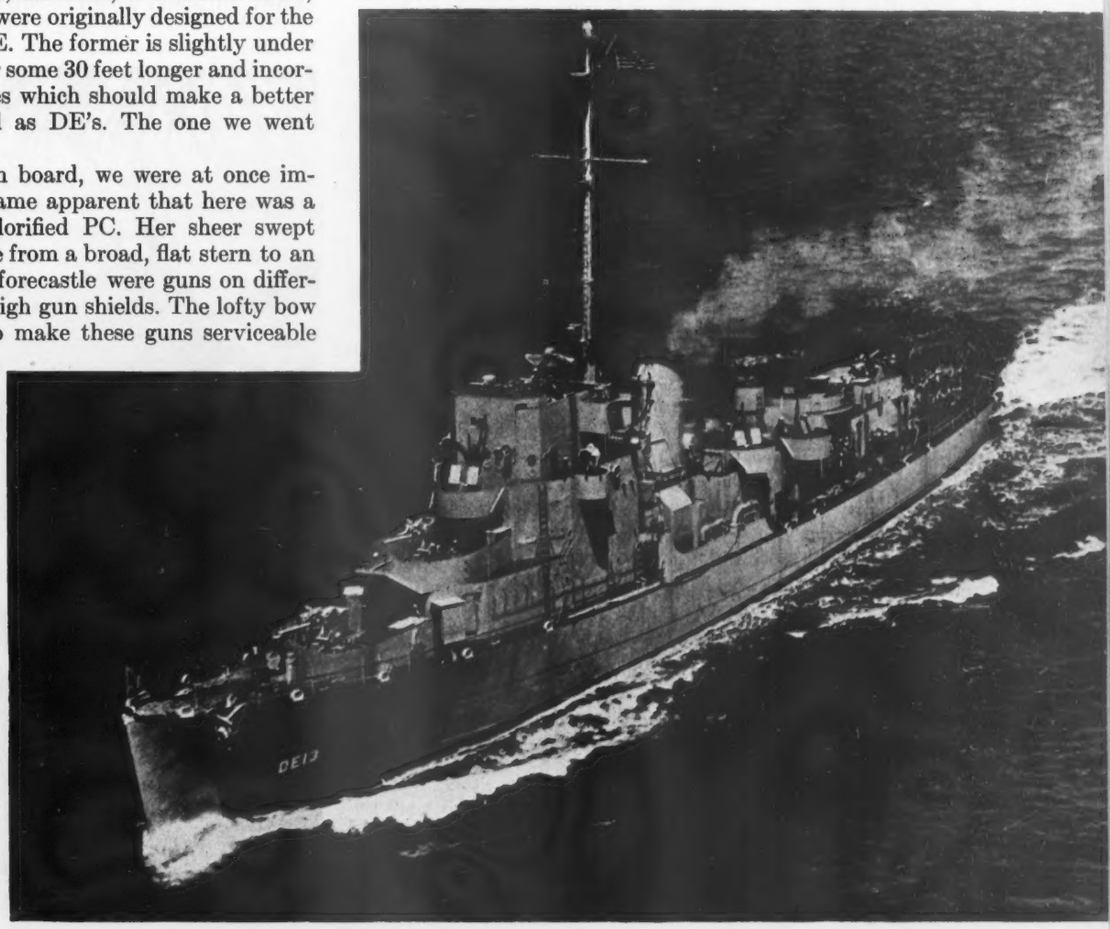
The DE's come in two types, the BDE, so named because, though American-built, they were originally designed for the British, and the American DE. The former is slightly under 300 feet over all and the latter some 30 feet longer and incorporating several basic changes which should make a better ship. Both types are classed as DE's. The one we went aboard was the smaller type.

Even so, upon climbing on board, we were at once impressed with her size. It became apparent that here was a modified destroyer, not a glorified PC. Her sheer swept gracefully in an unbroken line from a broad, flat stern to an extremely high bow. On the forecastle were guns on different levels and protected by high gun shields. The lofty bow and shields were designed to make these guns serviceable in the rough seas which are the scourge of accurate gunnery in small ships. Towering above and behind these guns was the pilot house, crowned by the flying bridge. This bridge, in the best British tradition, was entirely open, protected only by wind and spray shields.

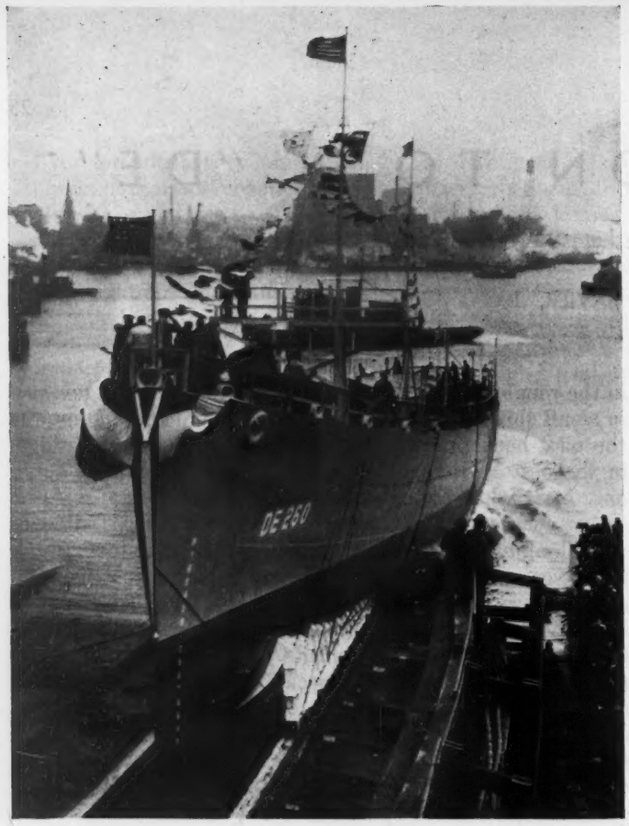
Arguments pro and con about these open bridges will continue long after the war itself is over. Having stood watch for a year on a corvette's bridge, which was just as open and even wetter by virtue of being less high, I have gone British to the extent of preferring an open bridge three-fourths of the time. It permits a vastly better vantage point for conning the ship, especially during air attack when an unobstructed view is mandatory. But, on North Atlantic duty, it is simply too darned cold for standing an efficient watch. What we would like to see is a small pilot house on the otherwise open bridge, with communications both to the open and the enclosed part.

Forward of and abaft the bridge were numerous anti-aircraft machine guns. On the fantail was a staggering array of depth charges in K guns and racks which should spell good news for someone — but not Hitler.

Upon going below, we found the crew's quarters crowded but comfortable. Most impressive was the self-sufficiency of these small ships which have their own laundry, small repair shops, and storage spaces for all sorts of equipment. The wardroom was comfortable and the officer's rooms, though not large, were well fitted and shipshape. An objection to the layout below might be lodged because she was hard to get around in. These objections would be valid



DE 13 — a new ship and a proud one. The big sister of a sub-chaser and a bit smaller than a destroyer, the Destroyer Escort is specifically designed for convoy and anti-submarine operations. These ships are of two types: the BDE, designed for the British, which is about 300 feet o.a., and the American counterpart which is 30 feet longer. Now building in huge quantities, it is estimated that by spring they will be the largest class of vessels in the U. S. Navy. Official U. S. Navy Photo



The DE's pronounced sheer sweeps up into a high bow. Here DE 260, the USS "Cabana," is launched at the Boston Navy Yard. Official U. S. Navy Photo

in a yacht and perhaps make some sense in a warship but it is considered that the increased damage control more than offset the inconveniences.

Making our way topsides, we paused to talk to several of the officers and men serving on board and to join their opinions to our own in judging certain of the ship's qualities. We were especially interested in learning how the DE maneuvered, since this quality is so all important for making a successful attack on a submarine. Consequently, we were delighted to hear from all hands that their ship turned on the proverbial dime. This becomes more explainable when we realize that she has very shallow draft for her size and a broad, flat stern. As a result, she spins something like a flat-bottomed skiff which has lost her skeg. Shallow draft has the further advantage of making her difficult to torpedo.

Unfortunately, in ships as in anything else, you can't get something for nothing and the destroyer escort has sacrificed some seaworthiness to gain her maneuverability. In a heavy sea, she rolls and pitches considerably — more so, of course, than if she were a bit deeper. Going into a head sea, she pounds more than a true destroyer. Her roll is also more violent but she comes back quickly and does not act topheavy. Running before it, heavy seas get under her broad counter and she slides down hill at a furious rate. In short, she does not appear to be an outstanding sea boat but is certainly safe. It is a matter of opinion whether this sacrifice of seaworthiness was justified. It appears to be when one realizes that the DE's have already gone through weather in which spray was lashing the flying bridge and have still been able to maintain an effective patrol speed. If the crew can take it, a destroyer escort will see them through.

Objections have been lodged against the DE's on the grounds that they appear topheavy. No one could help but approve of the high bow which assists so much in keeping her decks dry and her guns serviceable and remains graceful in the process. But perhaps there is some justification in thinking that the guns and bridge are too high. From an esthetic viewpoint, yes, but this very height makes accurate gunfire easier under adverse conditions. The high bridge affords a grand control station.

Their high superstructure facilitates fire control. Few other U. S. naval vessels have the English type open bridge of the DE. Official U. S. Navy Photo

It was especially gratifying to learn that while making a sharp turn the DE takes extremely little list. In fact, she takes less than a destroyer, skids around on a relatively level plane and is steadier while maneuvering than while steaming on a steady course. What the eye does not see at a glance is the fact that the ammunition for all the antiaircraft machine guns (and this weighs more than the guns themselves) is quickly supplied through hatches in the deck. It seems, then, that the Bureau of Ships has not had to sacrifice as much to the desires of the Bureau of Ordnance, in designing these ships, as some people believe.

The DE's armament, though not comparable to a destroyer's, is considered adequate for the job for which she was designed. She can shoot it out with a submarine with a good assurance of coming out on top. Every gun aboard is a dual purpose weapon for planes as well as surface craft. Her machine guns are the best type in use today, even the smallest firing explosive shells.

The speed of the destroyer escort is below that of a regular destroyer. For their purpose, however, high speed is by no means necessary. Their sustained cruising speed is fast enough for a successful screening patrol of convoys and their range is long. A few knots more speed would improve these ships but the smaller DE's could not achieve this end without sacrificing other features. We will settle for her as she is.

We have not yet seen the larger DE but from all reports she is a fine ship. She is longer and somewhat deeper and hence is almost certain to be a better sea boat. Her tactical characteristics reveal, however, that she will have practically the same maneuverability as her smaller sister. Her fire power is greatly increased. There are more AA machine guns of both sizes. The biggest difference in armament comes with the addition of a torpedo mount. This can be used against subs and would be mighty handy in case the convoy

(Continued on page 64)

JULY, 1943

FOR THE YACHT OF TOMORROW

Some Post-War Materials for the Yachtsman

By HAM de FONTAINE

STRANGE as it may seem, war, by speeding up developments which might otherwise be postponed for years, is in some ways a blessing in disguise. Everyone knows that the shutting off of our sources of supply in the Far East for rubber, silk and hemp has stimulated research and development of satisfactory substitutes, many years ahead of what otherwise would have been our normal rate of progress. And when I say "satisfactory substitutes," I mean just that, for the synthetics which have been developed are superior, in many ways, to the materials they replace.

Let us consider the synthetic fiber which has been under development for a number of years by du Pont. The name *Nylon* is familiar to everyone in connection with women's stockings, but it is not so well known as a strong, light weight parachute cloth. This material, which is made entirely of elements obtained from coal, air and water, is endowed — not by nature but by man — with certain characteristics which render it superior to the natural silk and cotton which it replaces. As silk is not generally used for yacht sails, we will compare only the best grade of Egyptian cotton with comparable Nylon fabrics.

The high grade, long staple, Egyptian cotton from which the finest sails are made has a fiber about 1½" long. This fiber, combined with many others, is twisted into yarn and the yarn is woven into sail cloth. Under a microscope, a piece of this yarn, of even the finest grade, looks rough and hairy, the ends of the individual fibers sticking out in all directions. On the other hand, Nylon fibers — or filaments, as they are called — are one continuous length from end-to-end of the yarn. The resulting piece of cloth is entirely free from the minute hairs, or fuzz, and when viewed through a microscope, looks as though it was woven from pieces of very fine glass wire. To the racing man, this fact is important because it means that sails made of this material will offer less skin friction to the passage of the air, particularly when close-hauled, as it is on that point of sailing that the wind passes across the surface of the sail at its maximum velocity.

The synthetic filament has another advantage over the natural fiber since, being a plastic, it can be shaped by the application of heat and pressure. To illustrate this point, let us suppose that the sail cloth has been enlarged to such a size that each individual yarn is a piece of rope about ½" in diameter. You would then have a material that looked like those rope mats that sailors weave. The wind could blow through a cloth of this weave with the greatest of ease. Now suppose that you had another piece of cloth of the same cross section but woven from a material which could be flattened out under pressure and heat, and would stay that way. It is easy to visualize what would happen. As the heat and pressure are applied, the interstices between the yarns become smaller and smaller as the yarns change from a circular to a flat section, somewhat like a tape. By the application of this treatment (which is called "calendering") to Nylon cloth, a condition of porosity approaching zero is obtained.

PHYSICAL TESTS	COTTON	NYLON
SPINNAKER CLOTH		
denier - warp	50	40
filling	50	60
porosity	22.2	9.1
thickness	.005"	.003"
weight per sq.yard - oz.	2.27	1.61
tear strength	1.6	5.2
tensile strength	45	59
elongation - %	15	30
Nylon cloth tested was "super calendered parachute fabric"		
SAIL CLOTH		
weight per sq.yard - oz.	8.0	3.49
thickness	.015"	.006"
tear strength	5.3	7.6

from Ratsey & Lapthorne

Rosenfeld

Ernest Ratsey's Golliwogg and her Nylon spinnaker. Note the limp burgee and the slack main sheet

Every sailor has had sad experiences with mildew. Around salt water, particularly, this complaint is prevalent, owing to the fact that once a sail has been wet with salt water, and allowed to dry, the salt on the cloth attracts the moisture in the air which, working into the pores of the cloth, promotes mildew. Nylon fiber is impervious to moisture, hence sails made of it can be furled wet without fear of rotting. The same characteristic which renders this cloth safe from mildew also prevents it from stretching or shrinking with changing atmospheric conditions. Thus the draft that your sailmaker puts into your suit of sails will not alter with every change of weather, a most important point to the racing man.

From Ernest Ratsey, of Ratsey and Lapthorne, who has been coöperating with the du Ponts in the practical development of sails from their new material, I have obtained some figures on relative weights, strength and present cost which are interesting. For example, 6 ounce cotton sail cloth (which comes 28½" wide) weighs 8 ounces per square yard, while comparable Nylon weighs only 3.49 ounces, a saving in weight of 56 per cent. This not only means easier work for the man who has to carry the sail bags, but also opens up to the naval

Cotton Nylon

How long staple cotton and Nylon yarns look through the microscope

architect new vistas of less weight aloft (where it counts most) with possible reductions in ballast, displacement, and so on. Some figures from physical tests of these cloths and also of spinnaker fabrics are shown in the table.

Another physical characteristic of Nylon is its ability to stretch under stress and to return again to its original shape. The breaking-in period for a new suit of sails — those first few days when many new sails are ruined beyond redemption — may lose some of its terror if the overstretched sail will resume the shape its maker gave it after being abused.

At present, this new fabric costs about four times as much as high grade cotton sail cloth, and it may never be able to compete on a price basis with the natural product. There is every reason to believe, however, as the process of manufacture is developed further and as the demand for the fabric increases, that it will be possible to reduce the price somewhat. When the longer life which can be expected from a suit of Nylon sails is taken into consideration, the real "cost per season" of such sails may not be as high as the original price alone would indicate. It may well be that the use of the new fabric will be confined largely to the racing classes, where the greater speed expected to be obtained from them will outweigh considerations of first cost.

In addition to cloth, the du Pont Co., working with the Plymouth and Whitlock Cordage Companies, has also developed a Nylon rope in which the individual filaments, or fibers, reach from end-to-end without a break. The samples that I have seen were pure white and so smooth that one wonders whether it will slip when belayed around a cleat or tied into a knot. The rope now in production is used almost entirely for towing gliders and has been made with definite physical requirements in view. Two of its most important characteristics are strength and elasticity. In comparison with high grade manila rope of the same size, the new rope is twice as strong and only half as heavy. This may indicate smaller lines and less windage on our post-war racing craft. On the score of stretch, or elasticity, however, there is some question as to its suitability for marine use, at least where constant tension is required — in halliards and backstays, for instance. Under the stress of a sudden pull, I am told that Nylon rope will elongate as much as 40 per cent without breaking, and will slowly resume its original length as the tension is released without damage to itself. For glider work, this characteristic is a valuable one but in a boat it is a definite drawback for some uses.

On the other hand, the new rope enjoys the same freedom from atmospheric sensitivity as the sail cloth; consequently it will not shrink or stretch due to changes in relative humidity as will manila. Nor will it rot from dampness — a desirable characteristic for an anchor rode, for instance. If it becomes safe to coil down your rode below decks without fear of rot, it will be a load off the mind of the boatman —and probably off his pocketbook too. It is not known for sure whether this rope will be resistant to the action of marine growths but it is believed that it will not be subject to deterioration due to long submersion. If this proves true, it will be another argument in favor of its use for mooring lines, anchor rodes, docking lines, etc.

Nylon rope and cloth have another peculiar characteristic: they will not burn but will melt under intense heat. Thus a careless cigarette butt in the middle of a sail will leave a small hole, whose edges will be nicely fused to prevent ravelling. With the rope, it becomes unnecessary to seize the ends of the strands before making a splice; simply unlay the three strands and hold a lighted match under the end of each for a moment. They become fused into a solid mass and will never ravel, making splicing much easier. I am told that the rope has no tendency to kink, even when new. This feature alone would be worth the price of admission to any sailor who has spent hours trying to get the kinks out of a piece of new line.

The rope presently being made is snow white but there is no reason why, in manufacture, it cannot be dyed any color desired. One can visualize the green hand of the future being told to "pull on that green rope" and "slack off on the red one." Perish the thought!

In the office of the du Pont Co. I saw a small sample of a piece of experimental rope in which the continuous filament had been broken into short pieces and spun into yarns, in the same manner that manila fiber is treated. This sample was of an off-white color and had minute hairs, or fibers, on its surface, somewhat like manila, but much finer and softer. It more nearly resembled Italian hemp than anything else, and seemed to me to more nearly approach the kind of rope that yachtsmen will want to buy when the opportunity offers. I do not believe that any of this particular lot of rope has yet been subjected to test on a boat, but it looked good to me.

In the course of its experiments with Nylon, the laboratories of the du Pont Co. have developed a number of other forms in which this versatile compound will appeal to the seagoing fraternity. I saw a suit of Nylon oilskins which was not sticky, was remarkably strong and light and which will not become stiff even in freezing weather. It can be rolled up and carried in a package the size of a man's overcoat pocket. It will never rot nor become rancid. I think my mouth watered slightly as I inspected it.

Then there are Nylon paint brush bristles with the taper of the natural hair; Nylon bearings for motors, pumps, shafts, etc., which are harder than Babbitt but softer than bronze, and never need lubrication. Perhaps they will be used in blocks in years to come. Mosquito netting made of Nylon is perfectly rustproof, resilient to those bumps which sometimes leave metal screens with permanent bulges, may be stretched over the frames so that the screen will be under permanent tension, will be available in several colors and transparent. Screens of this kind could easily be mounted on rollers like window shades. A transparent tubing of this material is being made and used, I understand, mostly for gasoline lines where vibration is a problem. It is tough

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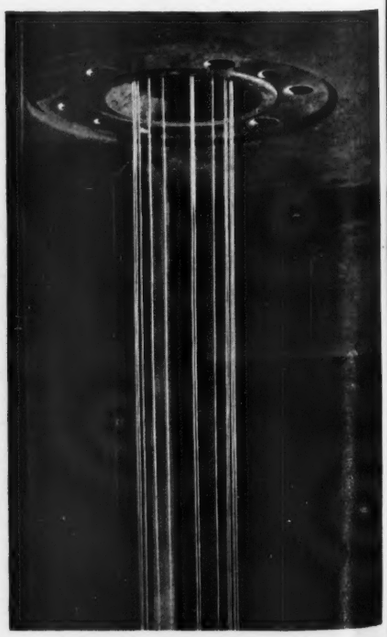


How the continuous Nylon filament is extruded from tiny holes in the spinneret. They will be wound together to form Nylon yarn. Courtesy du Pont Company

M. Rosenfeld Photo

Which exerts the greater pull on the anchor rode — the cruiser in the foreground or the cutter alongside? How far does the windage on masts and rigging offset reduced hull resistance?

ANCHORS AND ANCHORING

The Question of Anchor Type and Size Remains a Subject of Endless Debate. Here is Authoritative Analysis

By RIDSDALE ELLIS

HIGH naval authorities are coming to the conclusion that anchors may be rated by their holding power and that the pull produced by windage on a vessel is likewise open to calculation. What experimental data the Navy may have accumulated on the subject is not, of course, available for the general public. At this point, I would like to digress for a moment to suggest that yachtsmen and others interested in boats and their equipment collaborate more in obtaining *really definite data* regarding the various aspects of the sport.

The average round table discussion is based on generalities, the opinion of the man who has sailed the greatest number of years being usually accepted as the best. Exchange of opinions may make an interesting evening but real progress can be made only by substituting facts for opinions. It is difficult for one man to secure a sufficiently wide range of actual test data to enable accurate conclusions to be drawn. He knows what he has found with respect to his own boat or the special set of conditions with which he was confronted. Similar data for other boats or other circumstances must be obtained before broad rules can be laid down.

To return to our anchoring problem: The first thing one engineer-yachtsman has to determine is the pull of his vessel on the anchor. After all, the sole purpose of an anchor is to resist the pull produced by wind and/or tide and hold the vessel in the desired spot. How great is this pull? The first thing to bear in mind is that the *average* pull on the anchor is practically due entirely to the pressure of the wind on the hull above the water line, including the windage of masts, spars, and rigging. The second thing to remember is that the weight of a boat has nothing to do with the average pull on her anchor, although it may markedly affect the *fluctuations* in such pull when there is a heavy sea running. Snubbing the pitching of a heavy boat places greater sudden stresses on cable than the snubbing of a light boat, even assuming that the windage of the two boats is substantially the same.

Ordinarily there is not much pitching in a small harbor since wave motion has little or no effect on a boat so long as the waves are so short that the boat "bridges" several of them. The maximum effect is where the wave length is twice the water line length of the boat. Then when the bow is on the crest, the stern is in the preceding trough, and vice versa. When that happens in a small landlocked harbor, it is time to pray. Usually waves in a reasonably good harbor do not create much disturbance because the length of waves is a function of wind velocity and of the "fetch," the distance from the weather shore to the ship. If the fetch is small, it takes a high wind to kick up waves long enough to toss a 30′ boat around.

All of the tested engineering formulae for wind pressure agree in one factor, namely: that pressure is proportional to the square of the wind velocity. Hence, by simultaneously

measuring the pull in pounds on the anchor rode and the wind velocity in miles per hour, it is possible to compute what the pull will be for any other wind velocity *for the same boat*. Boats differ, however, in size and shape and to work out general rules certain generalizations must be made. Roughly, the wind pressure is proportional to the square of the surface perpendicular to the direction of the wind. There is also a "shape factor" which can be expressed simply by saying that some objects are more streamlined than others.

We then end up with the following formula:

$$\text{Pull in lbs.} = KAV^2$$

where

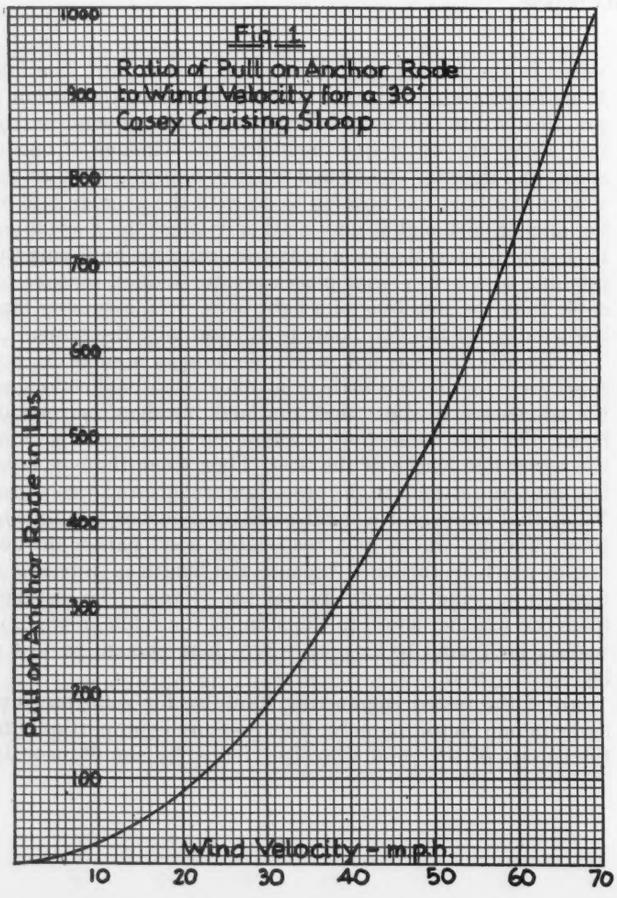
V = Wind velocity in m.p.h.
A = Height of cabin top above the water multiplied by the maximum beam
K = Shape factor

Actual tests, made on a Casey cruising type sloop, show that $K = 0.0055$ for cruising sail boats or auxiliaries.

It must be borne in mind that a beamy boat has more hull windage in proportion to spar windage than a narrow one. Consequently, the factor by which the cross section amidships (A in the above formula) must be multiplied to take the spar windage into consideration is smaller for a beamy boat than for a narrow boat. For example, tests on a Friendship sloop 37′ long, 12′ beam, showed that the value of K was 0.0045, instead of 0.0055 for the narrower Casey sloop.

For typical power boats, my best figure for the value of K is 0.0035. Some may wonder why the value of K should be less for power boats than for sail boats, particularly since power boats yaw around more than sail boats and hence have more lateral windage. The answer is that the power boat is all hull and there is no added resistance due to masts, spars and rigging.

As I shall use the Casey sloop for illustrating the applicability of the general principles of anchoring, I will give her principal dimensions: L.O.A., 30 feet; L.W.L., 25 feet; Beam, 8.7 feet; Height of cabin top above water, 4.7 feet. $A = 41$.



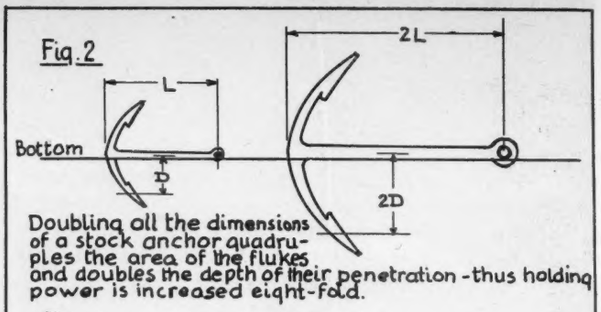
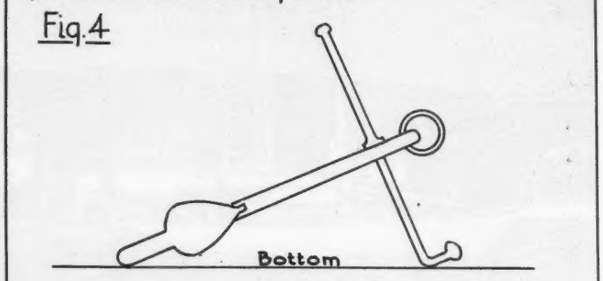
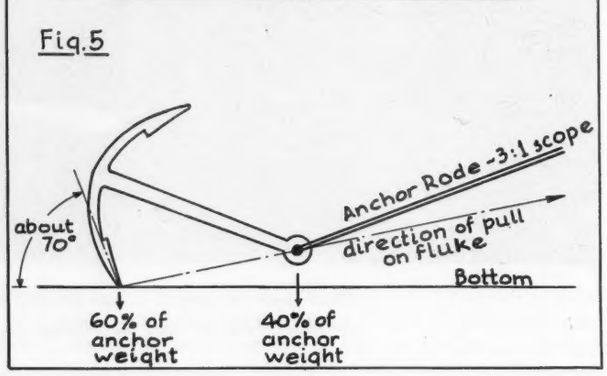


Fig. 2
L
2L
Bottom
D
2D
Doubling all the dimensions of a stock anchor quadruples the area of the flukes and doubles the depth of their penetration - thus holding power is increased eight-fold.





Inserting the figure 41 for A in the above formula and solving the equation for different values of V or wind velocity, we get the following table:

TABLE 1

Wind velocity m.p.h.	*Pull on anchor rode in lbs.*
10	25
20	80
30	185
40	330
50	510
60	750
75	1270
100	2050

The ratio is given in the form of a curve in Fig. 1.

The first point of interest brought out by the above table is the small pull at low wind velocities. A boat may appear to be straining at her anchor but actually there is little force exerted. Here is where a yachtsman has a chance to display a due sense of proportion. There is no need to use a 1″ diam. manila line having a breaking strength of 9,000 lbs. when anchoring in an 8- to 10-knot breeze. Even a fair sized cruising boat will not exert a pull of over 50 to 60 lbs. in a wind of that strength. The same common sense should be applied to the size of anchor let go. There is no sense in dropping a huge mud hook under such conditions. Always have a light anchor for these occasions.

On the other hand, the table clearly shows the need of real ground tackle when it blows up. The heaviest you can conveniently carry may be none too light. When it comes to blow a hurricane, even heavier anchors than those normally carried are needed. Usually, however, when a hurricane breaks, the boat is at her mooring and, as mooring anchors do not have to be lifted on board, convenience in handling is not a requirement so there is practically no limit to their size and weight. For these reasons the question of proper permanent mooring tackle involves quite different considerations from those with which we are concerned here.

Personally, I favor three anchors: a small, light one, to use as a "lunch" anchor; a larger one to let go at night, heavy enough to hold in anything that is not violent enough to wake the crew; and a heavy one for real emergencies.

The next problem of our engineer-yachtsman is to determine what pull an anchor of given construction and weight will withstand before dragging. In other words, to determine the factors upon which the holding power of an anchor depends. It is not surprising, on looking up the literature regarding anchors, to find that the first man to lay down a general law regarding the holding power of anchors was Nathanael G. Herreshoff. Subsequent experimenters have shown that, with one modification, his law is correct. As modified, the law is that the holding powers of different sized anchors are proportional to the areas of their flukes multiplied by the distance they are buried in the bottom.

The extent to which an ordinary stocked anchor buries depends on the hardness or otherwise of the bottom. In hard ground, the lower fluke only may be buried, its supporting arm being above the surface of the bottom. In soft mud, the entire anchor may be buried, although it is rare for the whole upper fluke to go below the surface except in really soupy bottoms. Whatever the nature of the bottom, it may be said that all anchors of the ordinary stock type bury to the same proportional extent. In moderately soft ground, they bury until the shank rests on the surface of the bottom, as shown in Fig. 2.

Now see what happens when *all* dimensions of a stock anchor are multiplied by 2, as shown on the right hand side of Fig. 2. The area of the flukes is multiplied by 4 and at the same time the center of the buried fluke is twice as far in the mud, as in the case of the smaller anchor (2D as compared with D). As a result, the holding power, by Herreshoff's law, is increased 8 times. That is exactly the same ratio as that of the change in volume and, therefore, in the *weight* of the anchor. In other words, *for geometrically similar anchors, the ratio of holding power to weight is constant.* It will be noted that this rule is for *geometrically similar* anchors. That is to say, for anchors all dimensions of any one of which bear the same relation to those of the corresponding parts of any anchor of the same series. Reduce the thickness of the flukes without changing their area, and the holding power per unit of weight will go up. This will be referred to later when sheet steel and types of anchors other than the ordinary stock type are discussed.

Tests by various investigators show that for a scope of about 5 to 1 the holding power of the ordinary stocked anchor is about 7 times its weight. That is to say, a 20-lb. anchor will hold until the pull is 140 lbs. or more. An interesting check on the formulae and ratios above given was obtained by the experience I had on a 49′ schooner which started to drag. I obtained from her skipper the weight of the anchor, 75 lbs.; multiplying that by 7, I estimated the pull on the chain to be around 525 lbs. I then obtained the value of 60 for A by multiplying the beam of the vessel, 12′, by the height of the cabin trunk, plus half the height of the dinghy on top of it, 5′. The value 60 for A I inserted in the formula, $0.0055\ AV^2$, and prepared a chart for the variation of pull on the anchor with wind velocity, like that shown in Fig. 1. From that chart I determined the wind velocity required to give a pull of 525 lbs. as 40 m.p.h. That checked well with the generally accepted estimates of the wind velocity at the time.

Perhaps the best test of the truth of the general relationships I have set forth is that they are borne out by the anchor tables of both Lloyd's and the American Bureau of Shipping. That agreement shows that years of empirical experience bear out the mathematics I have mentioned.

The large anchor is the real problem. How large shall it be? Returning now to the Casey sloop, we find from Table 1 and the fact that a stocked anchor will hold seven times its weight, that I would require one of 110 lbs. to hold in a 60 m.p.h. squall. For a boat of her size, an anchor of 110 lbs. is out of the question; 60 to 70 lbs. is about as much as can be hoisted on board without tackle.

There are various ways in which the holding power per unit of anchor weight can be reduced: 1. Increasing the scope; 2. Using two anchors; 3. Decreasing the weight of the anchor without reducing the fluke area; 4. Using a type of anchor which will bury its fluke deeper than the ordinary stock anchor.

This brings us to a consideration of the effect of scope on holding power. Coombes* determined the value of the ratio:

$$\frac{\text{Holding force in pounds}}{\text{Weight of anchor in pounds}}$$

for various angles of pull on a stock type anchor in sand from 0° to 28.5°. The results of these tests are shown graphically in Fig. 3. There is a steady progressive drop in the holding power for an anchor of any given weight as the angle increases up to around 25°, when the holding power suddenly drops to a low figure. The anchor used in Coombes' tests was a specially light form of stocked anchor. Its light construction is reflected in the fact that at an angle of pull of 14.5°, equivalent to a scope of 4 times the depth of water, the holding power is 20.

The curve will, of course, vary with the type and design of the anchor, so that it is given more as an illustrative example than as definite proof that you can safely shorten the scope for any anchor up to 25° and no further. Also, I much doubt whether there is a definite unstable point in any other types of bottom except sand and gravel. We have all had the experience of having difficulty in breaking the anchor out when the cable angle was 90°, not a mere 25° or

* Anchors for Use on Flying Boats —*Reports and Memoranda, British Aeronautical Research Committee, May 1931, Rep. No. 1449.*

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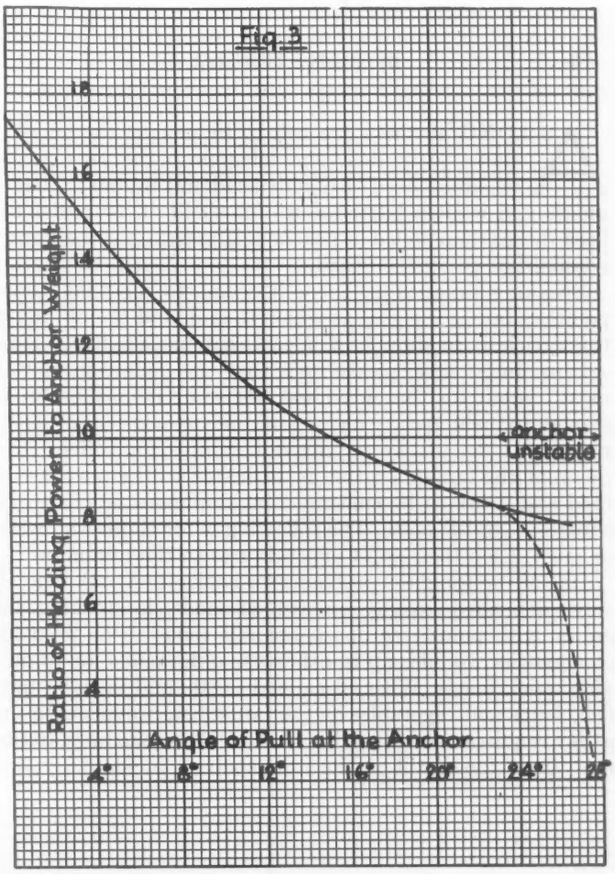
Fig. 3



POINTLESS WORK IN THE GALLEY

You Don't Need to Rob the Family Ration Book to Feed your Crew this Summer

By RUTH BRINDZE

AS LONG as there are fish to be caught (or bought), clams to be dug, and lobsters in the pots, ration schedules need be of only academic interest. That is, unless you want a butter sauce for shellfish, or prefer fish fried rather than boiled or poached. If you do, the theoretical possibilities go by the board.

Speaking practically, then, it seems to me that *almost* pointless fare is the goal at which to aim, and the burden of this article is to show how it can be achieved. But, before getting under way, please note that the definition of "almost" is left for the individual; for some it may be broad enough to include crisp bacon and juicy steaks; for others it may not even justify paying out stamps for coffee. How much of the family's ration is dedicated to the purchase of food and drink to be consumed on shipboard is left to the skipper — or his mate. The following is for those who wish, or must, keep their point expenditures to the minimum.

One of the toughest problems for cooks (like me), who always depended heavily on canned foods, is stocking the galley with point free non-perishable foods to be used for emergencies, to add zip to otherwise dull menus, or to provide quick meals. With all canned meats and most canned fish, soups and vegetables on the ration list, provisioning the galley requires close attention to the OPA's schedules and to the "free" foods still on the store shelves. Incidentally, the OPA's schedules must be watched like stock market reports, for they change at irregular as well as at regular intervals. The inventories of large and small stores also change rapidly and food available this morning may be completely sold out by noon. However, in the first week of June, the following interesting items could be obtained, point free:

Bouillon Cubes and Beef Concentrates: the latter is usually the more flavorsome and, in addition to serving as a beverage, is useful for adding beef flavor to sauces, stews, etc.

All packaged, dehydrated soups: adequate as a substitute for rationed canned soup but they are said to deteriorate if stored for a long period in a warm and humid place.

Clam Juice and Clam Broth: unnecessary unless you cruise in clamless country.

Green Turtle Soup: good hot or chilled, but the price puts it on the luxury list. The same is true of

Caviar and, to a lesser degree, of *lobster* and *crabmeat* which can be purchased without stamps, either red, white or blue.

Vegetable Juices: containing less than 70 per cent tomato juice.

Apple Juice and *Papaya Juice:* fine instead of grapefruit juice, which is rationed.

Prepared Welsh Rabbit: packed in a jar. This is a real find since American cheese is rationed. However, to be free, the rabbit must contain less than 30 per cent cheese by weight.

Ravioli: packed in a tomato cheese sauce.

Boneless Chicken and Chicken a la King.

Canned Corn on Cob: the only canned vegetable specifically excluded by the OPA.

Potato Strips: a perfect accompaniment for cocktails (hard or soft), lobster, steak, or what have you.

Honi-spread (Homogenized honey): use instead of butter and syrup on griddle cakes, especially good in sandwiches when combined with peanut butter or cream cheese.

Date and Nut Bread and *Boston Brown Bread:* in tins.

Jellies, jams, peanut butter and similar spreads, pickles, olives, beefsteak sauce, chutney and many other condiments, as well as mayonnaise and salad dressing, are on the free list. For the ship's galley, salad dressing is a better bet than true mayonnaise which legally must contain eggs and therefore should be kept under refrigeration. Of course, if you prefer French dressing, you can make your own with olive oil, which is non-rationed. The oil is handy, too, for frying the fish that you expect to catch.

When lining up the food for a week-end, there is a wide variety of ready cooked products that can be obtained without ration points. Canned baked beans, that good old standby, is out, unless you pay your points, but cash in hand is all you need for baked beans sold at a delicatessen or other

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THE BUBBLE SEXTANT FOR SHIP USE

By P. V. H. WEEMS

Lieutenant Commander, U. S. N., Retired

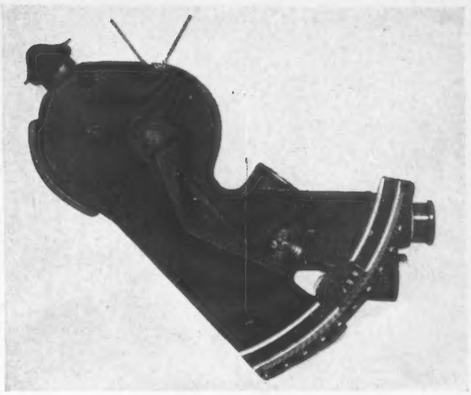


Fig. 1. The Link bubble sextant, devised mainly for the use of aviators. Neither natural nor artificial horizon is needed when observing with this instrument

SINCE the invention of the marine sextant about 1734, efforts have been made to develop an artificial horizon attachment to the marine sextant which would permit observations when the natural horizon is obscured. Bubble, pendulous and gyroscopic types have been made, but the most satisfactory type to date has been the bubble which might be considered a liquid pendulum.

Not until the need for aircraft sextants spurred this development did the bubble sextant reach a useful stage. Even now, the shortage of the bubble type sextant, with the conservatism of the marine navigator, has resulted in a greatly restricted use aboard ship of this potentially valuable instrument.

The following general facts will answer questions in the minds of some marine navigators:

1. The accuracy of the bubble sextant, properly used, is to within about 5 miles, compared to about 1 mile with the marine sextant. To get within 5 miles, an average of a series of observations is necessary.
2. The cost and weight of the bubble sextant is now about the same as for marine sextants.
3. Bubble sextants may be used any time a celestial body is visible, which means that sights may be taken through the long reaches of the night, in surface fogs and in other conditions where the sea horizon is not available.
4. The use of the bubble sextant is no more difficult than the use of the marine sextant.
5. Due to the present demand for thousands of bubble sextants by the Air Forces, there is a shortage of bubble sextants but, even so, great quantities of these instruments are being supplied by Link Aviation, Bausch & Lomb, Pioneer, and Fairchild. Link Aviation is geared for quantity production of the type which will be described in some detail.
6. The accuracy of bubble sextant observations depends on the acceleration; that is to say, the motion to which the instrument is subjected.
7. Under any weather conditions except a smooth sea, single shots with the bubble sextant will be subject to errors of as much as 50 to 100 miles. The only feasible means for reducing these errors is by taking an average of a number of sights, say 10 or 20.
8. To simplify the operation of getting an average of a series of observations, most modern bubble sextants are fitted with an averaging feature.
9. The marine sextant should not be replaced by the bubble sextant, but should be supplemented by it.

To get down to cases, we shall now describe the Link Averaging Bubble Sextant, shown in Figures 1 to 3, and give the actual results obtained on test.

Figure 1 shows the Link Bubble Sextant without the averaging drum and housing which is shown in Figure 2. The model shown in Figure 1 is not on the market at present, due to priorities on the averaging type shown in Figure 2. The two dimmers, shown at the top in Figure 1, are for sun observations.

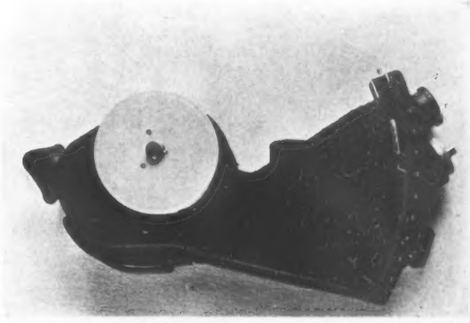


Fig. 2. The Link bubble sextant with averaging drum and housing, which facilitates the operation of recording and averaging a series of sights

Figure 3 shows the optical system of the Link Bubble Sextant. The index glass is used both as a mirror and for direct view. A faint star is observed direct while the illuminated bubble image is reflected to coincide with direct rays from the star. In the case of the sun, dimmers are used and the sun's rays are reflected from the index glass while the fainter bubble is viewed directly through the index glass as reflected by the mirror B in the optical system. The light rays of the sun for observations follow the path shown by the full line; those for direct star observations follow the dotted line. The moon, planets and brightest stars may be observed with either position.

The Link Averaging Sextant weighs about 2½ pounds, costs $262 and is fitted with an averaging drum on which

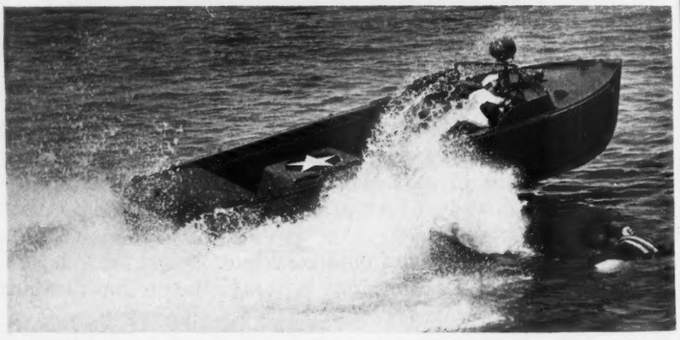
(Continued on page 68)

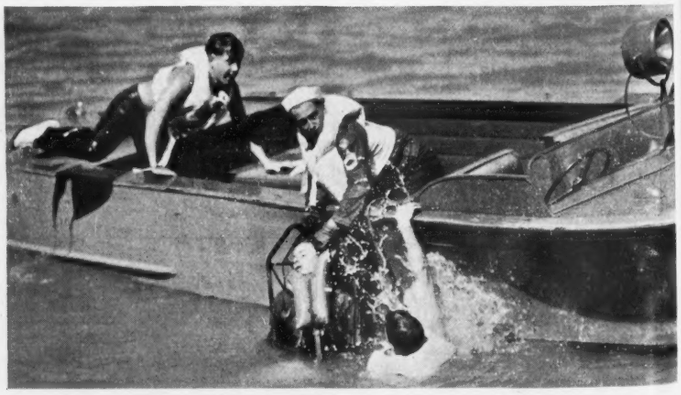
DETAILS OF OBSERVATIONS AND THE ERRORS, APPARENT OR REAL, USING HUGHES BOOTH BUBBLE ARTIFICIAL HORIZON

	Date, 1935	Ship's Time	Object (Sun or Venus)	Ship's Approximate Position		Last or Nearest Fix or the Time of the Position Line of the Same Object using the True Horizon		Apparent or real Error of Obs. (see Note)	No. of Obs.	Conditions under which the Observations were taken
		H M		° ′	° ′		H M			
1	8th April	0709	☉	14 37N	119 09E	Star fix at	0536	+ 1·5	5	Excellent.
2	13th ,,	0742	☉	30 02N	128 24E	Do.	0509	+ 9·0	3	Rolling easily.
3	25th ,,	1715	☉	23 11N	124 26E	Do.	1908	+14·0	5	Do.
4	26th ,,	*1837	☿	20 15N	121 41E	Cross bearings off Batan Islands.		+11·7	5	Rolling slightly.
5	27th ,,	0739	☉	18 22N	120 25E	Cross bearings off W. Coast Luzon.		+ 2·0	5	Excellent.
6	28th ,,	0735	☉	14 32N	119 17E	☉ obs. at	0725	+ 0·7	5	Do.
7	30th ,,	0722	☉	07 24N	115 46E	Star fix at	0535	— 1·0	5	Do.
8	9th May	0709	☉	23 15N	124 30E	Do.	0502	— 0·2	5	Pitching and rolling slightly.
9	7th June	0720	☉	04 39N	98 29E	Do.	0517	+ 1·0	5	Excellent.
10	8th ,,	0739	☉	05 59N	94 58E	Cross bearings off Pulo Weh.		+ 2·2	5	Pitching and rolling slightly.
11	10th ,,	0717	☉	05 46N	88 11E	Star fix at	0517	+ 3·2	5	Mod. to fresh monsoon : pitching and rolling.
12	11th ,,	0729	☉	05 54N	85 12E	Do.	0516	— 3·5	5	Fresh monsoon ; pitching and rolling.
						and ☉ obs. at	0738			
13	16th ,,	0734	☉	05 52N	82 42E	Star fix at	0514	— 5·0	5	Mod. monsoon : rolling 10° to beam swell.
14	17th ,,	0735	☉	05 59N	86 42E	Do.	0525	— 3·5	5	Do. Do.
15	18th ,,	0734	☉	05 57N	90 31E	Do.	0519	+ 2·0	5	Light monsoon : rolling 7° to beam swell.
16	19th ,,	0726	☉	05 49N	94 12E	Star fix at	0516	+ 1·5	5	Light monsoon : rolling 5° to beam swell.
						and ☉ obs. at	0734			
17	19th ,,	1820	☿	05 49N	95 41E	Cross bearings off Pulo Weh.		— 2·7	5	Excellent.
18	28th ,,	0719	☉	04 15S	112 40E	Star fix at	0528	+ 2·7	3	Unsteady in moderate bow sea.
19	28th ,,	0733	☉	04 15S	112 42E	Do.		+ 0·6	5	Do. Do.
20	8th July	1620	☉	04 03S	118 45E	Star fix at	1822	+ 1·2	5	Pitching slightly.

Note.—The error is considered apparent if the position line obtained is compared with a D.R. position run up from the last or nearest stellar fix, or with a position line obtained with the same object using the true horizon, and the error is considered real if the position line so obtained is compared with a terrestrial fix taken simultaneously. Additive or subtractive to obtain true altitude.

EDWARD ALLEN, Chief Officer, S.S. "Cepolis."

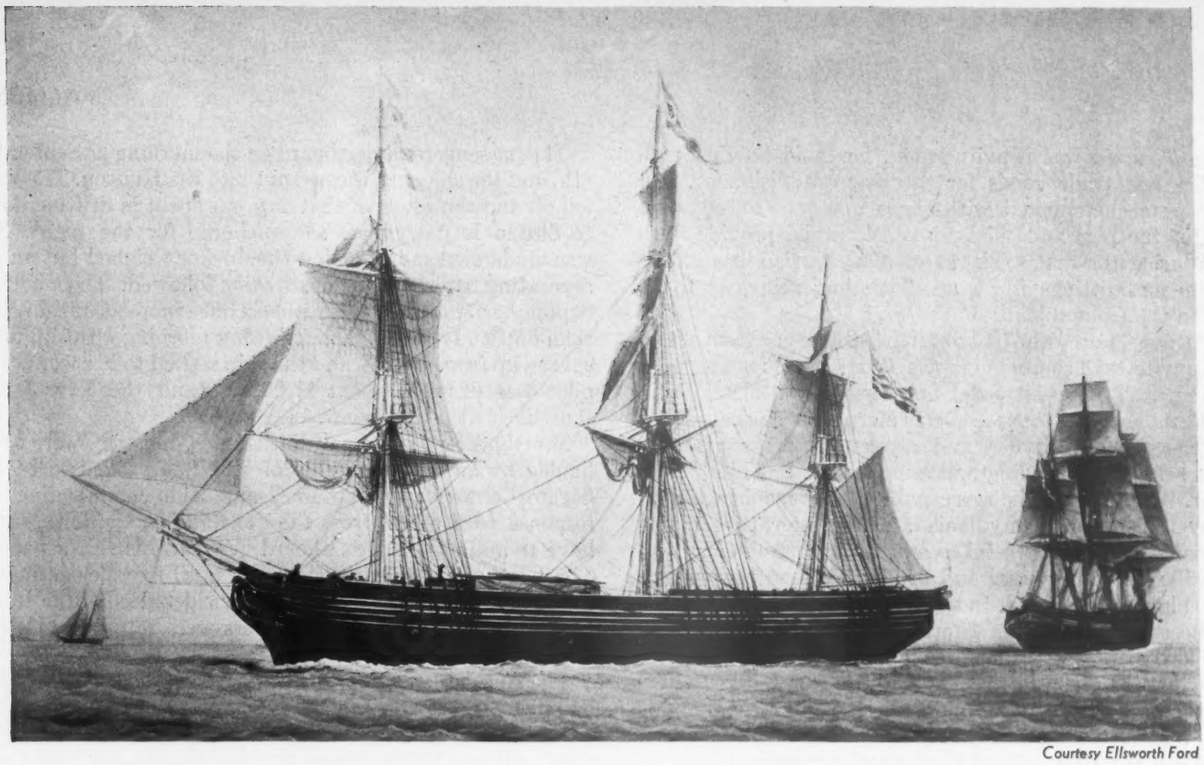




Official U. S. Army Air Force Photos

ARMY AIRCRAFT RESCUE BOATS

Among the least known of the unsung heroes of this war are the crews of the Army's aircraft crash boat service. These units are to be found in every theater of war, and they play an important part in the operations of flying fields in the United States. Here shown are actual scenes during the day-to-day operations of the unit at Hamilton Field, California. Consisting of forty-six men and ten boats built by Chris-Craft, Higgins and others, it operates on San Francisco Bay 24 hours a day



Courtesy Ellsworth Ford

An American merchant ship of the early Nineteenth Century, of much the size and type of the "Tonquin." From a painting by Francois Roux, of Marseilles

THE VOYAGE OF THE "TONQUIN"

Part I—From New York to the Falklands

By MARGARET WALLACE

NOT LONG ago the Navy Department announced through the newspapers that it wished to locate the nearest female relative of Lieutenant Jonathan Thorn, U.S.N. The services of the unknown lady were desired as sponsor at the launching of the destroyer *Jonathan Thorn*, then building at Kearny, N. J. In this belated recognition of Thorn, the Navy undoubtedly had in mind his conduct during the war with Tripoli, which was distinguished.

Jonathan Thorn entered the Navy as a midshipman in 1800 and was assigned to the Mediterranean Squadron. In 1803, he was acting lieutenant in the *Enterprise*, under the command of Stephen Decatur. He took part in the destruction of the captured U. S. frigate *Philadelphia* and later commanded a gunboat during the bombardment of Tripoli. He was cited for gallantry by Commodore Preble after this action, and a destroyer in consequence bears his name today. Almost certainly no reference to Lieutenant Thorn's last voyage was intended. The cruise of the ship *Tonquin* and the mysterious disaster of her end are not often remembered nowadays.

Thorn was still a young man and not widely known when he ended his seafaring days in a welter of blood-soaked wreckage on the shores of Vancouver Island. No white man lived to report the strange scene which was lighted from the shore of Kwakiutl funeral fires. Only rumor, and that conveyed long months later through the rain-soaked forests of the Olympic wilderness, brought word of the great explosion which left drifting timbers from the *Tonquin*, and the harbor and shores around littered with hundreds of shattered bodies of white and Indian dead, and the burned and smoking shreds of a thousand sea otter pelts.

John Jacob Astor heard it in New York and paled. The otter skins, worth a king's ransom in Canton, belonged to him. A substantial part of his already great fortune had been pledged to the success of the venture.

It was a singular footnote Jonathan Thorn set on the pages of history. The heavy-handed young veteran of Tripoli bore a measurable, perhaps a decisive, part in the destruction of one of the brightest of all American dreams of empire. Costly as was the disaster he finally contrived, only American luck kept the toll from running higher still. Jonathan Thorn's bad temper, and his stiff-necked notion of what was owing to a regular Navy officer, nearly cost the United States the Puget Sound country and the whole of its present territory north of the Columbia River.

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The voyage began under auspices bright enough. Probably few better found sailing vessels ever set out on the long beat around Cape Horn for the high Pacific Coast of North America. The *Tonquin* was a stout full-rigged ship of about 300 tons, rather too full in the beam and high in the poop for beauty. She was pierced for twenty guns but mounted only ten, the forward gun ports making a formidable display of painted wooden dummies. She carried 33 passengers and a crew of 21, something of a crowd considering her size.

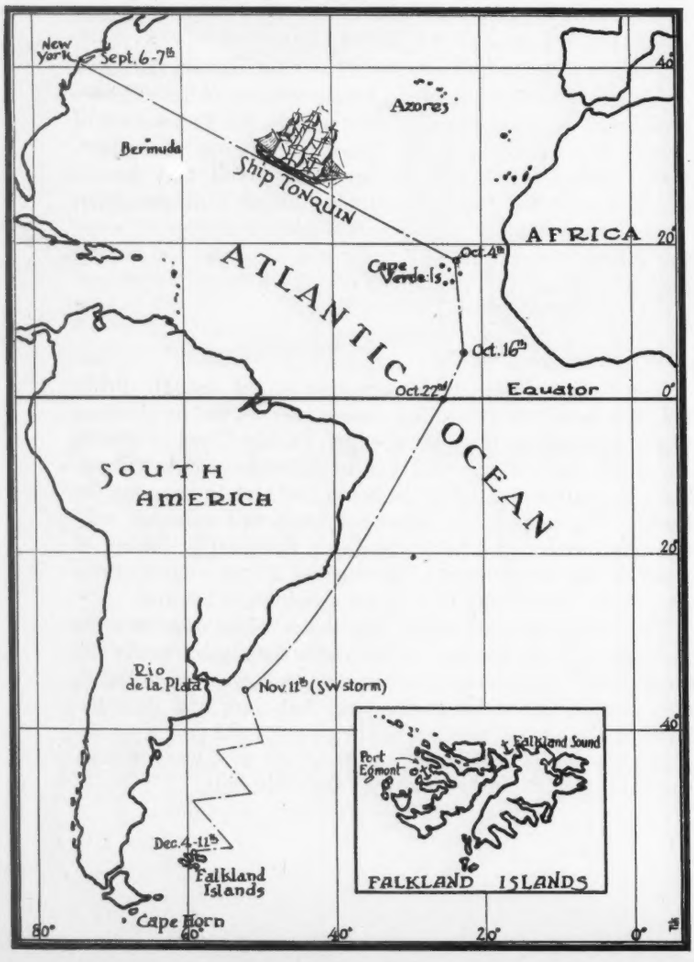
The important passengers, Mr. Astor's four new partners in fur trade, were assigned berths in the main cabin under the poop. Abaft the forecastle, where the crew was quartered, a door in a bulkhead led to the large but dark and unventilated compartment allotted to the twenty-odd young Canadians, the clerks, mechanics and boatmen who were to man the trading post at the mouth of the Columbia.

The *Tonquin* was heavily laden, her hold bulging with supplies and trade goods for the new establishment. Her decks were encumbered with cargo not yet stowed, with pens for the pigs and chickens which would provide fresh meat during the first weeks at sea. She carried in addition timbers and fittings for a small trading schooner to be built on the Columbia.

Jonathan Thorn, who had obtained a leave of absence from the Navy to take command of the *Tonquin*, was not a popular man, and apparently did not care to be. Though still something short of thirty, he was stern of presence, with a manner inclined to dryness and sarcasm. That was his manner at best, when nothing had happened to put him out of humor. When crossed, he was capable of awe-inspiring rages. Not even his worst enemy denied, then or later, that he was a capable and resourceful seaman, a commander who showed extraordinary zeal and prudence where the welfare of his ship was concerned. In that respect, at least, Mr. Astor had chosen well. Jonathan Thorn transferred to the interests of his new employer the single-minded and almost fanatical loyalty he had given to the Navy.

A man only a little above middle height, but strongly built and proud of his hard physical condition, Thorn planted himself on the deck of the *Tonquin* as arrogantly as if he ruled the quarterdeck of a ship of the line. His expression was sour and grimly watchful. There were things about his present job he thoroughly disliked. He was particularly uneasy because there were so many British subjects aboard.

In this year of 1810 it was already clear that war with Great Britain was inevitable. Thorn had heard that a British man-o'-war was cruising outside New York harbor. If the *Tonquin* were stopped and searched, he ran the risk of being crippled at the start of the voyage by the impressment of a fair part of his ship's company. To guard against this he had suggested that Mr. Astor apply to the commandant of the Port of New York for a naval escort to set the *Tonquin* safely on her way.



The passengers came aboard on the morning of September 6th, and the ship was warped out into the Hudson. The wind fell off and the whole of that day was spent in drifting down to Staten Island, where she anchored for the night. Sail was made next morning and the anchor weighed but an exasperating afternoon of dead calm followed. The night of September 7th found the *Tonquin* once more at anchor, this time off Sandy Hook. The following morning a fresh breeze sprang up from the SW and the ship settled to her work. The pilot was dropped about 11:00 a.m. and the New Jersey shoreline faded from view.

Shortly afterward, a sail was sighted and they were overhauled by an American ship of war. She proved to be the frigate *Constitution*, Captain Isaac Hull commanding. In response to a signal from the *Constitution*, Captain Thorn hove to and sent a boat aboard her with his ship's papers. The two vessels sailed in company until five o'clock in the afternoon, when the *Tonquin* was considered safe from interception by the British. Her papers were returned and the two ships separated.

The weather was fine but during the afternoon the wind had freshened steadily. The *Tonquin* was slogging along with a businesslike roll which was too much for the stomachs of the Canadians. While Thorn glared in disgust, the happy-go-lucky young clerks, suddenly green and unhappy, pawed for space along the lee rail. Bedraggled French Canadian *voyageurs* in gaudy worsted sashes and leather leggings struggled up from the steerage, blundered their way across the encumbered decks, and sometimes did not make the rail in time.

There, Thorn growled to the mate, were your bold Canadian adventurers. Take a look at them now, groaning and fouling the decks. As worthless a lot of braggarts as it had ever been his ill luck to see, and none of them even decently clean. Tavern sweepings, he swore they were. Mere barroom trash.

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Jonathan Thorn proposed to run the *Tonquin* with the discipline proper aboard a naval vessel. Accordingly, as soon as the escorting *Constitution* was hull down, he announced that he would expect all lights in the ship to be extinguished by eight o'clock in the evening.

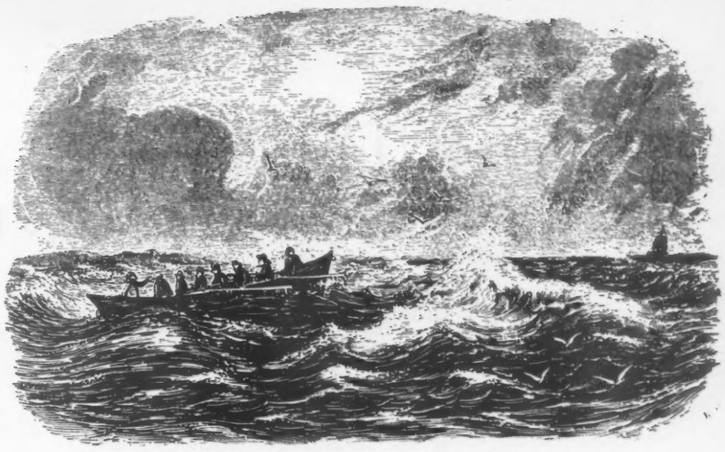
This provoked a roar of protest from the cabin. The partners were minded to sit up smoking their pipes and drinking and arguing over their plans for the new fort of Astoria as late as they chose, and not without lights, either, like a lot of errant schoolboys. To these objections Thorn said coldly that he wanted to hear no more of the matter. The first man to disobey an order aboard his ship would be clapped in irons.

Duncan McDougall would not.

So said Duncan McDougall, drawing a pistol from his belt and laying it on the table in front of him. The fiery and self-important little Scot considered himself first among the Astor partners on board, and spokesman for them all. He emphasized his words with a thump of his hard first on the cabin table. He would blow out the brains of Captain Thorn or any other man who ventured to offer him such an indignity. He gave Thorn back glare for glare, and the outraged gaze of the captain wavered first. Grudgingly Thorn yielded the point. The lights might remain on a little longer then.

Repairing to his own cabin, Thorn summoned his clerk, a young schoolmaster named James Lewis who had signed up with the Astor party and, according to Thorn, "as foolish a

The sailing course to Cape Horn takes the ship well to the eastward. The "Tonquin" sighted the Cape Verdes



The shore party pulling desperately after the ship as she left Port Egmont, in the barren Falklands

pedant as ever lived." To Lewis, the smoldering captain dictated his own version of the quarrel, resolved that Mr. Astor should hear about it at the earliest opportunity.

In his single-minded concern over the voyage, Thorn apparently had formed no conception of the scope of the Astor enterprise as a whole or of the important and responsible roles assigned to the partners. The fact was that these Scottish Canadian woodsmen, though somewhat noisy in manner and flamboyant in dress, were thoroughly experienced hunters and Indian fighters. Alexander McKay, who had been with Mackenzie on his overland expedition to the Pacific, was an explorer of some repute. He and McDougall, with Donald Mackenzie and David Stuart, had been engaged by Astor from the rival Northwest Company.

Mr. Astor planned to drain the fur trade of half a continent through a chain of trading posts stretching along the Missouri and Columbia rivers, with a chief factory to be established at the mouth of the Columbia. From there, vessels would be sent to trade along the Northwest Coast. Once a year, a supply ship would be sent out from New York and the furs collected during the previous year would be carried to China. There was wealth for them all in the business, when furs worth $2250 in the Canton market could be bought for $35 worth of trade goods; when a single yard of white cloth had been known to bring 110 prime beaver skins.

Astor had reserved half of the 100 shares in the company for himself, agreeing to furnish ships, trade goods, arms, and provisions, and to bear all losses for the first five years, not to exceed a maximum investment of $400,000. The present partners received four shares each and the rest was held for others to be taken in as the company expanded. The men in the *Tonquin* were to select a suitable site and build a fort at the mouth of the Columbia. They expected to rendezvous there with a party of Astorians which was crossing the continent overland under the command of Wilson Price Hunt. Hunt was to be the chief factor when the trading post was established at Astoria.

Meanwhile, in everything not directly concerned with the working of the ship, Duncan McDougall considered himself the leader of the *Tonquin* expedition, empowered to act as Mr. Astor's personal representative. He was not without justification, as he carried a letter to this effect from Mr. Astor himself. The choleric little Scot, as Jonathan Thorn had already learned, did not mean to yield an inch of his personal prestige.

Even the despised steerage passengers, miserably seasick, were not quite the contemptible rabble Thorn considered them. There was a handful of skilled artisans for the new fort, a ship's carpenter, a cooper, a blacksmith, a rigger and caulker, etc. The twelve clerks had signed for five years in the service of the Astor Company, with the promise of advancement to a partnership when they had proved their worth. They were to receive $100 a year, payable at the expiration of the term, with an annual allowance of $40 worth of clothes.

They were literate and intelligent but very young men, many with French Canadian names like Ovide de Montigny and Gabriel Franchere. Most of them had never been to sea before. They were excited over the adventure and full of eager curiosity. The young Canadians had arrived in New York in a large bark canoe, portaged by wagon from the St. Lawrence to Lake Champlain, and from Champlain to the Hudson.

The *voyageurs* might be complete landlubbers at sea. On the rivers of Canada they were experienced white-water men, these boastfully loud youngsters in their beaded moccasins and buckskin leggings, their blanket cloth capotes and bright sashes, their hats gay with ribbons and feathers. They were as proud as the partners of their hardihood and woodcraft and, perhaps tactlessly, made no secret of it.

The crew of the *Tonquin*, who were having trouble with their own work because of the cluttered and crowded decks, followed Thorn's lead and adopted a hostile attitude toward these outlandish passengers, who were unhappy enough in any case.

Young Gabriel Franchere, who had never been out of his native Montreal, had looked forward to the voyage as a glorious adventure. The first day out he admitted his disillusionment in the privacy of his diary. "I confess that if at that moment the offer had been made to release me from my engagement I should have accepted the proposal with all my heart." Nevertheless, the seasickness passed, the cargo littering the decks was gradually stowed below, and hope revived along with appetite.

On the 4th of October, in 17° 43′ N and 22° 39′ W, they picked up the NE trade and changed course to SSE. Next day, they sighted the Cape Verde Islands, bearing WNW and some eight or nine miles away. The coast of Africa lay to the southeast. The passengers wanted to touch at the Cape Verdes and take on water but Thorn was afraid of encountering British warships off the African coast.

Water, which had been served out in rations of a quart a day, was now reduced to a pint and a half. For the rest, their daily fare consisted of 14 ounces of hard bread, a pound and a quarter of salt beef, and half a pint of Souchong tea with sugar. On alternate days, pork was served instead of the beef. Rice, beans and corn pudding with molasses each appeared on the menu once a week and on Sundays the steerage passengers were allowed a bottle of Teneriffe wine.

The partners and the two fortunate clerks — James Lewis and Thomas McKay, the son of Alexander McKay — who occupied the six berths in the cabin, fared better, with what amounted to luxury according to the standards of Captain Thorn. Fresh pork appeared on the cabin table, with ham, tongue, smoked beef and pudding. Still the partners grumbled about it constantly. It was damned hard, they said, if they could not live as they pleased aboard their own ship. Thorn listened silently and his exasperation mounted.

The midday temperatures crawled into the upper 90's. On October 16th, in 6° N and 22° W, the mercury stood at 108°. Late that day they sighted a sail. The next morning, a large unidentified brig mounting about 20 guns approached within gunshot. The two ships, both with all canvas set and running before a good breeze, sailed in company all that day. Toward evening, the brig dropped astern and altered her course to the SSE.

Early next morning she appeared again, about a cable's length off, and without showing her own colors sought to learn the *Tonquin's* name and registry. Captain Thorn was alarmed. The brig had shown herself a better sailer and was

(Continued on page 61)

TWENTY YEARS OF YACHT DEVELOPMENT

Part II — Growing Importance of Ocean Racing Begins to Affect Design

By HERBERT L. STONE

THE success of the first two of the revived Bermuda Races (1923–4) proved beyond a doubt the popularity of ocean racing, and the growing size of the fleets and the increasing number of such events assured the future of this particular branch of the sport. On the West Coast, interest in the Honolulu Race grew rapidly, and many yacht clubs located on salt water began planning events of varying length that would take the participants offshore for several days at a stretch. Able cruising boats with a good turn of speed were in demand, but it was not until 1926 that any yacht was designed and built especially for ocean racing.

In the 1926 Bermuda Race, two events really started designers thinking along the lines of developing boats for ocean racing. One was the entry of a British yacht that was sailed across to take part in the race. This was the cutter *Jolie Brise*, owned by E. G. Martin. While she was an old-fashioned, straight stemmed heavy displacement type that did not have any subsequent effect on design, she was the forerunner of other yachts from European countries that were to be seen in future races. Out of her visit came the formation of the Ocean Racing Club of Great Britain, which later became the Royal Ocean Racing Club, an organization that was to do much to make ocean racing popular abroad.

The other event was the building of *Dragoon*, the first yacht designed especially with an eye on the Bermuda Race and her rating under the rule. Embodying the ideas of her owner, Robert N. Bavier, one of the most experienced ocean racers, she was designed by Ford & Payne and was an exceptionally fine, able vessel. The over all measurement length alone was still being used for rating at that time, and *Dragoon* had short ends and a long water line length, making her a larger boat for her over all dimension than were most of the existing fleet at that time. She was also designed to be at her best on a reach, beam winds being, theoretically, the conditions most likely to be found over the Bermuda course.

From that time forward, new yachts coming out for cruising and ocean racing were largely designed under the ocean racing measurement rule of the Cruising Club of America, which organization had taken over the management of the race after 1923.

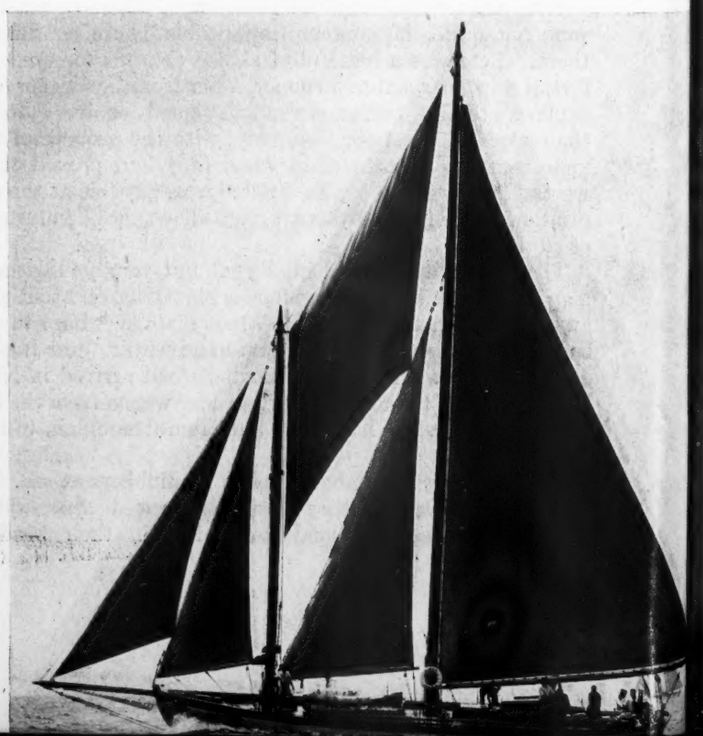
While the results of races under the simple, over all

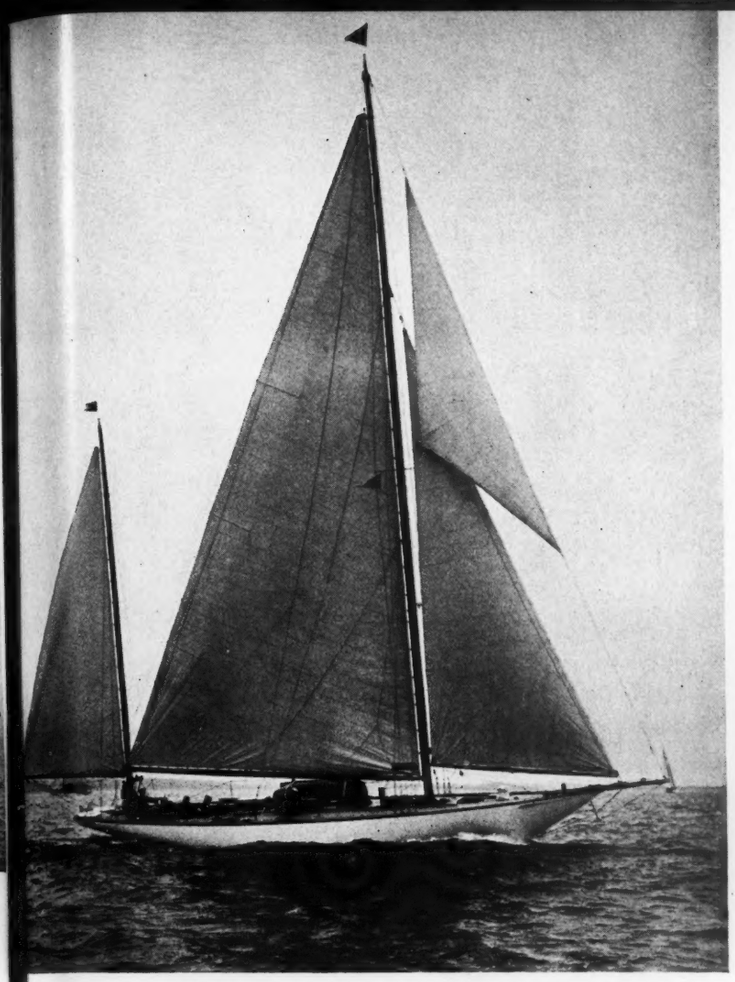
(Continued on page 74)

"Jolie Brise," a British cutter, crossed the Atlantic in 1926 to sail the Bermuda Race, the first of many foreign entries which have since made ocean racing international in character

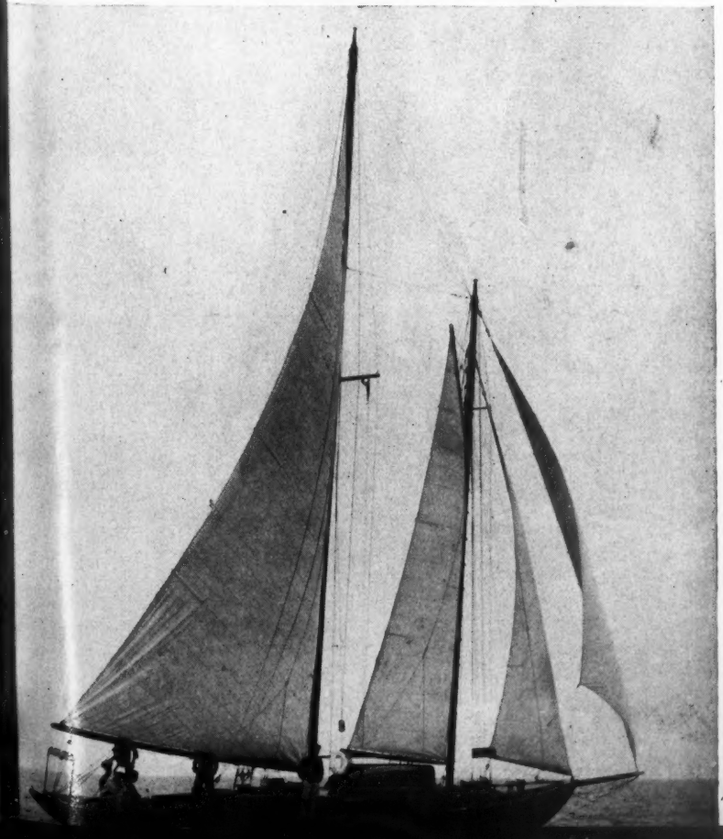
"Dragoon," a fine, able ketch, the first of many yachts built subsequently with the Bermuda Race in view

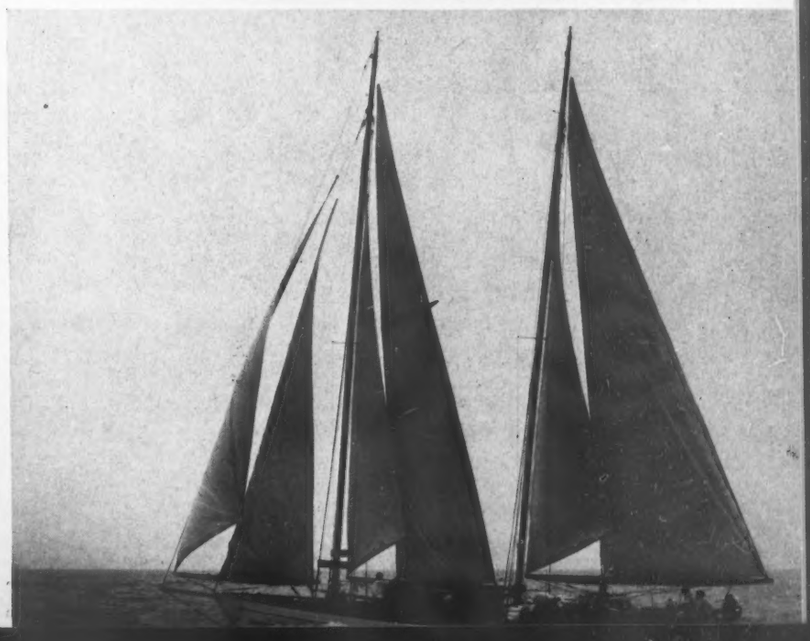
"Niña," winner of the Race to Spain, 1928, was built to rate under the first real ocean racing measurement rule





"Rugosa II" (above), designed by Herreshoff and the winner of the 1928 Bermuda Race, had a highly modernized and efficient rig. In "Yankee Girl II" (top, right), W. H. Hand, Jr., produced a fine, able and fast ocean racer. Right, "Teva," winner of the 1928 Honolulu Race, was designed by Starling Burgess before the days when ocean racing became popular, and is a good example of cruisers of her day. Below is the little schooner "Teal," designed by John Alden in 1926. Longer ends, finer lines and a modern jib-headed rig show the influence of ocean racing on the effort to gain speed. Wm. Roos's "Isabella," in the Spanish Race of 1928, had a freak rig which was not suited for ocean work. She was dismasted 800 miles out.





WITH THE U. S. COAST GUARD AUXILIARY

▶ What with the average day-to-day routine in the life of a CGA member consisting of a generous mixture of classes, patrol duty, meetings and special assignments — topped off by occasional attention to home and business — it is not surprising that there is never time enough to catch up with the unending pile of "paper work." But among the many essential publications which have been prepared for individual study, there is one which immediately falls into the classification of "must reading." That is *Regulations for U. S. Coast Guard Auxiliary*, the diligent study of which is recommended.

▶ Article 305 of this publication deals with the matter of advancement, and, because there remains some confusion as to just what CGA ratings are attainable, the article is here reprinted in full:

"Two lines of advancement, those of Deck and Engineering, are established. The designations in these specialties will be as follows:

Deck	*Engineer*
Navigator	Engineer
Senior Navigator	Senior Engineer
Master Navigator — Master Pilot	Master Engineer

"A member to be eligible for advancement to the designation of Navigator or Engineer, must (*a*) have been a member of the Auxiliary for not less than six months, except that this requirement may be waived in the discretion of the Commandant, (*b*) attain a passing mark of 70% in a written examination in his specialty, (*c*) produce satisfactory evidence that he has had not less than one year's experience in the active operation of motor boats or yachts.

"A member to be eligible for advancement to the designation of Senior Navigator or Senior Engineer, must (*a*) hold the junior designation in his specialty, (*b*) have been a member of the Auxiliary for not less than twelve months, except that this requirement may be waived in the discretion of the Commandant, (*c*) produce satisfactory evidence that he has had not less than two years' experience in the active operation of motor boats and yachts, (*d*) for Senior Navigator produce satisfactory evidence that he has had not less than 100 hours of day piloting and 50 hours of night piloting, (*e*) attain a passing mark of 70% in his specialty.

"A member to be eligible for advancement to the designation of Master Navigator or Master Engineer, must (*a*) hold the junior designation in his specialty, (*b*) have been a member of the Auxiliary for not less than eighteen months, except that this requirement may be waived in the discretion of the Commandant, (*c*) produce satisfactory evidence that he has had not less than three years' experience in the active operation of motor boats and yachts, (*d*) have had not less than 50 hours experience as junior watch officer at sea on a Coast Guard cutter, (*e*) attain a passing mark of 70% in his specialty.

"A member to be eligible for advancement to the designation of Master Pilot must have the same qualifications required for the rating of Master Navigator, except that the member will not be required to have knowledge of Celestial Navigation. He must, however, produce satisfactory evidence that he has successfully completed all other courses for the rating of Master Navigator and that he has had not less than five years' experience in the active operation of small vessels."

▶ Of the many excellent CGA district publications which come to the editors of YACHTING, *The Standby*, which is published monthly in the Eleventh Naval District, is as fine as anything we have yet seen. Moreover, it is full of informative news, viz.:

Donald Douglas, President of the Douglas Aircraft Corporation and a West Coast yachtsman of note, is the new Commodore of the District. . . . Lieut. Jonah Jones, Jr., Director of Auxiliary, has appointed two capable Assistant Directors, which is a further indication of the scope of the job the Auxiliary will be expected to perform in the future. In recognition of his excellent record, Commodore Jack Cairns has been commissioned lieutenant, senior grade, and assigned to full time duty in the CGA office. Vice Commodore Walter Kane has likewise received a commission as a lieutenant, senior grade, and will take over at the Patrol Base as Auxiliary Operations Officer with Lieutenant Larry McDowell as his assistant. . . . The District Coast Guard Officer has directed the Auxiliary of that District to assume all phases of port security duties under the Captain of the Port. This plan will permit officers and men in the regular Coast Guard and Coast Guard Reserve to be released for both sea and foreign duty. Commencing immediately, members of the Auxiliary (who

The diversified fleet which comprises the Auxiliary Flotillas at Jacksonville, Florida, respond to a practice emergency call to their patrol stations

are temporary reservists) will be permitted to perform port security duties, both afloat and ashore. As a result, it is expected that all members in the District will enroll in the Temporary Reserve, and that the total membership will be increased from 1,500 to 4,500 men.

▶ "The Coast Guard Auxiliary is here to stay — throughout the war *and after the war*," writes Lieut. Comdr. John V. D'Albora in the recent issue of the Seventh District's *Depth Charge*. His statement was made to spike the popular rumor that, since the advent of the Temporary Reserve, there "just isn't any more Auxiliary."

"We don't know the origin of this bit of scuttle butt gossip, but we do know that it is a decided misstatement of fact," continues Comdr. D'Albora." The Temporary Reserve (so called) is *not* taking the place of the Auxiliary. Members are enrolling in the Reserve in Class (T), but they are still members of the Auxiliary. Enrollment in the Reserve makes it possible for Auxiliary members to attain a military status, and to clothe themselves with military authority, for certain specified hours each week. *Only* during these hours of active duty are they members in the Reserve; at all other times they are in the Auxiliary."

Florida's Lake Okeechobee, the largest inland lake within any one state in the country, keeps Flotilla 7, Division 2, on its toes. This lake covers 730 square miles, is 30 miles wide and 35 miles long. Since the outbreak of the war, tugs towing barges are weekly plying from Fort Myers

A fleet muster of Flotillas in the vicinity of Wilmington, North Carolina, prior to a practice run to patrol stations along the inland waterway

on the Gulf Coast to Stuart on the East Coast, which results in local CGA Flotillas shouldering the many responsibilities of safeguarding the lake's many channels. All reports indicate that an excellent job is being done.

Division 4 quotes a report from member Paul Bylaska which is almost as terse as the famous "Sighted Sub — Sank Same" communication. It reads: "1101 Plane noted in trouble over Gulf. Pilot bailing out. 1105 Plane in flames. 1107 telephoned C.G. Station giving observation and

(Continued on page 84)

On facing page: The Transpacific racer "Stella Maris," owned by Dr. A. A. Steele, sails out of Los Angeles. From a photograph by Kent Hitchcock

Rosenfeld Photo

Looking out over Larchmont Harbor from the wide porch of the famous yacht club

WARTIME CRUISING

From Larchmont to Hamburg Cove — and Way Stations

By A. H. and H. M. PARK

THE COLD squall, coming across the Sound out of the north, caught the Skipper on the end of the bowsprit clawing the jib down, laid *Nurmah* on her beam ends and filled the cockpit with water. Ricky struggled with the wheel. Miriam and the Mate had just ducked below to break out the afternoon ration of coke, and the sounds of crashing glass and crockery were still coming up from the cabin as Miriam scuttled up the companionway, got a firm hold on the weather coaming and looked around to see what else needed to be ducked quickly. A second later, the Mate stuck her head up the hatch and in a loud — and startled — voice shouted: "Hey, Ricky, head 'er up. What's happened, anyway?" Her lack of apprehension was gratifying to the Skipper, still battling with the jib. A year before, when the boat was new to her, her handling a mystery and her ability not proven, she would have been terror-stricken by the sudden blow, the rail under and the cockpit ankle deep. She had fallen in love with *Nurmah's* thirty-six feet of staunch seaworthiness the first time she boarded her in Jake's yard at Oyster Bay, but it took considerable cruising to overcome her city-born distrust of wind and water, and to make a sailor out of her.

Ricky and Miriam had been out with us for the week-end and, on the way back to Larchmont from Darien, we had crossed over to the Long Island shore in an attempt to run around a thundersquall sweeping eastward over Connecticut. On the last two days, our evasion tactics had been successful and the Skipper had been a little too cocky about running around this one. In spite of Ricky's watchfulness, the squall appeared out of nowhere, the cockpit was awash in the twinkling of an eye, some pillows and the swimming ladder went overboard and disappeared in a welter of foam. The Skipper labored mightily with jib and staysail, got them down as Ricky brought the boat's head into the wind and eased the strain on the mainsail, and everybody breathed more easily. Ten minutes later, the clouds were breaking away, the sun was coming out, staysail and jib were set and we were headed for the harbor. It was then that the Mate turned on the Skipper belligerently and said: "You know, you might have been washed overboard, and then where

"Nurmah" is a 36-footer designed by John G. Alden and built by Morse at Thomaston, Maine. Her motor is a four-cylinder Gray

On the way back, we anchored in Lloyd's Harbor. That night we woke just as a big black schooner dragged down almost into us

would you have been? We couldn't have gone after you." "No chance," retorted the Skipper blithely, "I wouldn't go overboard." "Better men than you have fallen over," she began, but he interrupted. "No better man ever held on tighter!"

Back on the mooring, all hands had a thorough application of the Haig Brothers lovely tonic, purely as a precaution against stray colds which might be lurking in such a damp climate, and were just sitting down to dinner as Cap and Kit Hansel came alongside in the club tender and the rain descended in torrents. Cap and Kit weren't due until the next morning, but a week's leave is short at best, Cap was impatient to get his hands on the wheel — and, anyway, there was plenty of dinner. We fell to with gusto and, what with all the chatter and interruptions and everybody talking at once, we finished just in time to pour Miriam and Ricky into the club tender as she made the last trip of the evening to the club. It wasn't until then we discovered that Cap, old salt and seasoned packer that he is, had let Kit bring two duffle bags, each slightly smaller than a Navy blimp. Peace was restored when it appeared that half the contents of one of the bags was of a medicinal nature, and the other half Kit's glamorous slacks and such other and sundry aids to beauty.

After his pointed comments to Cap on the problem of stowing the contents of the duffle bags, the Skipper's face turned more than a bit red when he opened the linen closet to get sheets for the Hansels' bunks. A small port had been open in the head in the afternoon when the boat was knocked down, the linen was saturated and there wasn't a dry sheet or towel aboard. Fortunately for the Skipper, the Hansels were too sleepy to care, so the incident was laughed off and we all slept in blankets.

Cap woke up in the clear coolness of Monday's dawn and with a great show of energy bounced up on deck, grabbed the mop with one hand, the chamois with the other, and fell to cleaning and polishing with such vigor it made the Skipper, who had lumbered up and was blinking owlishly, tired just watching him. Breakfast over, the girls went ashore for provisions, trying to look unconcerned about the sheets and towels draped over every available line. The boat looked like an immigrant vessel of pre-Civil War days as the linen snapped and fluttered in the freshening northwesterly breeze. Fortunately everything dried out quickly and before noon we were under way and bowling along at a good rate, reaching Southport as the last of the tide was ebbing. Halfway up the channel leading to the breakwater, the bow rose an inch or two with an imperceptible impact. We were aground on the soft mud — and we stuck there. Confident

Rosenfeld Photo

that George, the Pequot Yacht Club launchman, would soon come out and free us, we furled sails busily. Two youngsters in a sailing sharpie came along and eyed us with mild curiosity but we paid scant attention to them until, coming down wind heedless of where they were going, they crashed into our port quarter with a bump that unseated them, caused the Skipper to volubly consign them — and their bachelor forbears for five generations — to a spot far hotter than the tropics, and resulted in their racing homeward as fast as the sharpie would go.

Our confidence in George was well-founded. He had us afloat in a jiffy and made available a convenient mooring. Can we be blamed for thinking him the best launchman on the Sound? Snugged down opposite the yacht club, where we could watch all the boats neatly tied fore and aft to the red-topped floats and at the same time enjoy the beauty of the well-kept lawns running back from the water to the stately colonial houses set under the old oaks, we chuckled over our experience there the year before. In the midst of a hilarious party on Cap's *Varuna*, eight of us had suddenly decided to go to the Tide Mill Tavern for dinner. Without more ado, we piled into the dinghies, were ashore with two good sweeps of the oars, and rolled up the road over the hill, making more noise than staid old Southport had heard for many a moon. Which said moon, as long as it is being mentioned, was also full that night. Our reception at the Tavern was anything but cordial, due, possibly, to our nondescript costumes. They might have passed in Montmartre, but Southport expected something better. The Skipper, being the only one who happened to have on a coat and tie, was thrust into the foreground by the others and, having thus been elected spokesman, had to talk fast. He introduced himself and, with a broad sweep of his arm, his companions, as the Terwilligers, the Terwilligers of Maryland, of whom mine host had of course heard, he explained that the fame of the Tide Mill Tavern had spread so far as to reach the old ancestral estate on the Eastern Shore. Seized with a desire to visit such a justly famous hostelry, the Terwilligers had sprung into their boats, sailed up furiously from Maryland, had just arrived and, the hour being latish, had not stopped to dress for dinner. Mine host wavered. It was late, no other customers were likely to appear and raise their eyebrows at our garb. Our efforts were repaid with one of the best meals we ever had. George told us it was closed this year; taken over by the military. Maybe some time we will have another such meal there; it was fun thinking about it, anyway.

Cap's energy and enthusiasm were unabated Tuesday and

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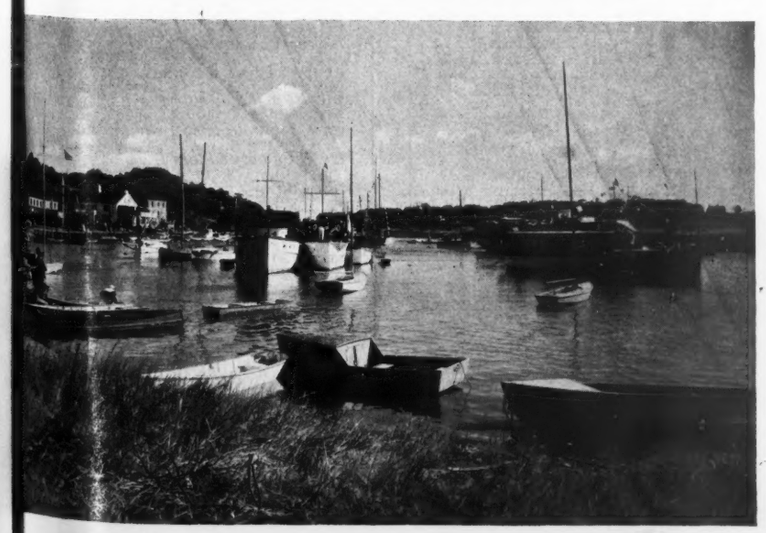


Though we ran aground in Southport, the club's launchman soon got us off and we snugged down off the yacht club. Rosenfeld photo

YACHT DESIGNING FOR THE AMATEUR

Part IV — Laying Out and Fairing the Lines

By CHARLES H. HALL

ONCE you have decided on the type and size of your new boat, the first step is to make a small free-hand sketch of what she is going to look like and what her layout will be. This sketch, which must be to scale, may be made on an ordinary 8½″ by 11″ sheet of letter paper. (See Fig. 35.) The small sketch is seen as a whole and not in sections as a larger one would be and you get a good idea as to her appearance. You can balance the sail plan roughly on it and determine the sheer, the length and outline of the overhangs, the length and height of the cabin trunk, etc. The low point of the sheer line should be about 85 per cent of the water line length from Station 0 at the forward end of the water line. In the plan view, a tentative layout of the cabin may be made, being sure to allow for the space taken by framing, planking and ceiling. Quite often, the layout will be too crowded and the boat must be lengthened, not putting in any more berths or lockers but merely loosening up the arrangement, giving a little more elbow room below. Don't be too optimistic as to floor room or get the outboard edges of seats and berths projecting through the sides, a common failing of the amateur. A midship section may be drawn to a larger scale on the sketch and floor line, seat line and berth line plotted on it. It is surprising how the floor line narrows at the ends.

When the sketch is satisfactory, lay out the paper for the lines. The paper should be tough and of good quality as there will be a lot of erasing before you're done. If you work by artificial light, the green paper will be easy on the eyes. Use as large a scale as the drawing board will allow. Draw the load water line, the base line (clear of the keel bottom and parallel to the water line), the rest of the water lines, the center line for the half breadth plan, and the buttock lines. Draw the station lines clear across the paper, spacing them accurately. Allow room enough below the center line of the half breadth plan for the developed diagonals and enough room on the board (not necessarily on the paper) for the batten weights. On a separate sheet, draw the "grid" for the body plan, that is, the water lines, the center line and the buttock lines. Do *not* draw the diagonals until the sections have been sketched in. Check all lines for distance apart and squareness to the others. When all the lines have been

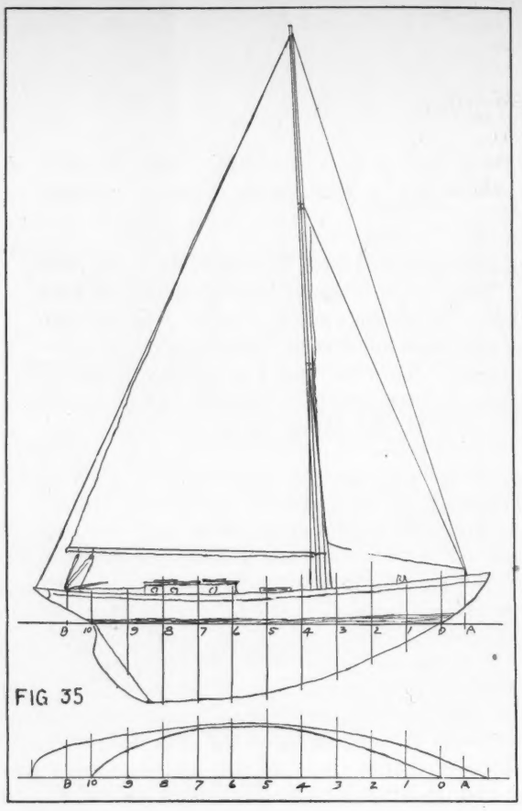


Fig. 35. The design starts with a free-hand sketch

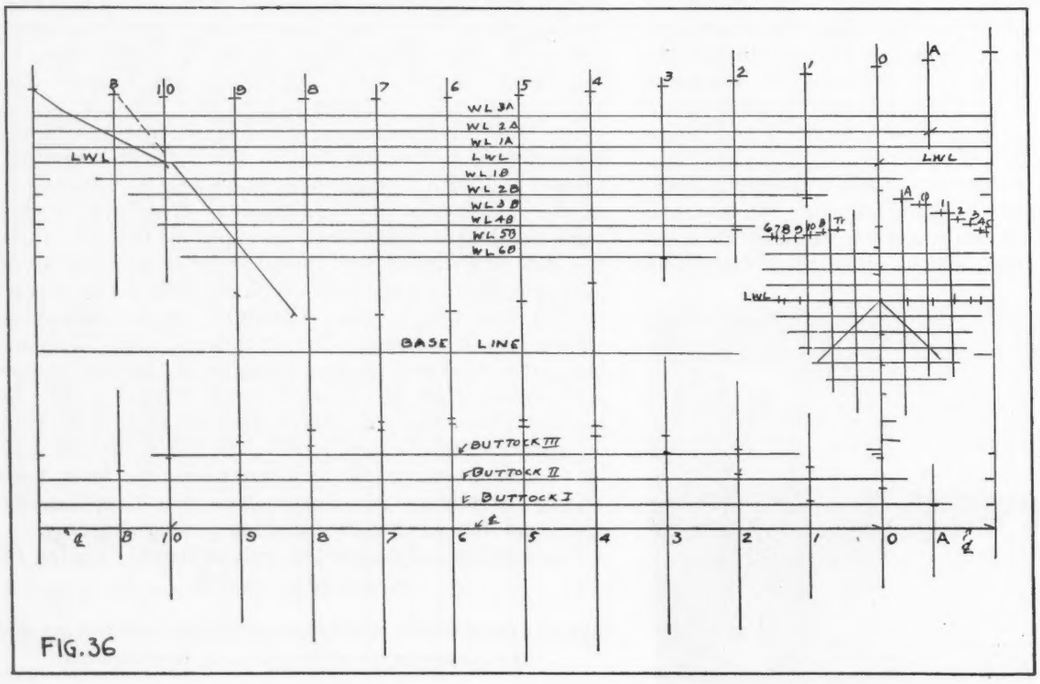


Fig. 36. Laying out the "grid" for the lines, with center lines, water lines, buttock lines and stations. In this case, the body plan is drawn on the same sheet as the rest of the lines. It will be handier to have it on a separate sheet, when it will be easy to turn it upside down for inking or examination

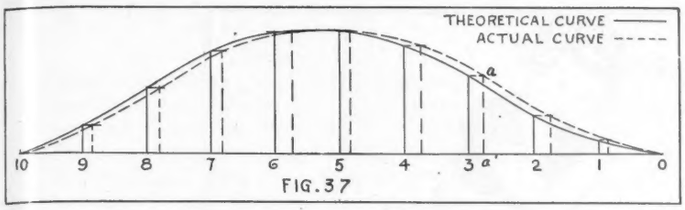
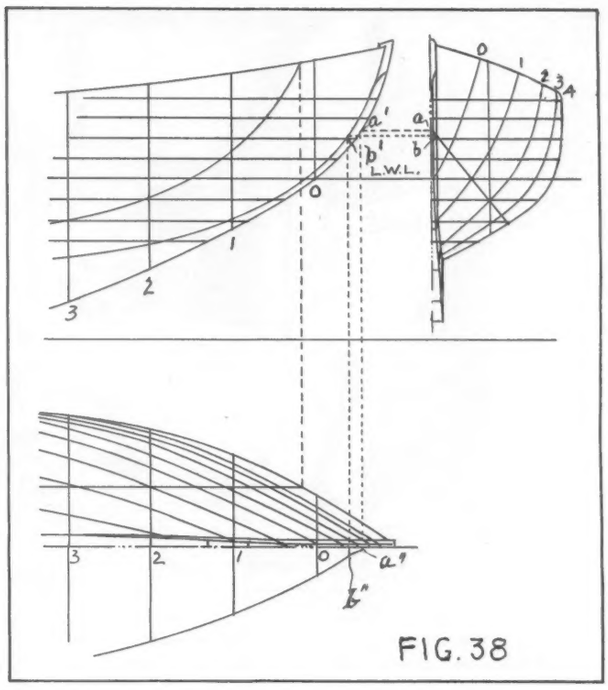


Fig. 37. A comparison of the curve of areas of the partly faired lines with a theoretical curve. Right, Fig. 38, showing how the ending of a diagonal forward is found

checked, ink them in with the ruling pen, set fine to make a "hair line." See Fig. 36.

Now go to the sketch and lay out the stations on it and measure the offsets of the sheer line and the under water profile and spot the points on the sheer plan of the drawing to the proper scale. Measure the deck and water line half breadths and spot them on the half breadth plan. Then, using a fairly stiff batten, set the batten to the spots. It will not pass through all the spots but will have to be adjusted up or down to get a good average. Sight the batten from both ends and be sure that it is a sweet curve. Pick up a duck here and there, or lift alternate ducks, letting the batten spring as it wants to but do not let it get too far away from the spots. Occasionally you'll find a spot that is quite badly out; this may be because an error was made in scaling it on the sketch. If so, remeasure it and spot the correct distance. The batten will extend beyond the ends of the curve being drawn so put a duck or two on the ends of the batten and be sure that it is a fair line its whole length. Use a 4H pencil and do not dig into the paper as there will probably be a lot of rubbing out and changing to do. Keep the pencil sharp.

Using either a "tick strip" (a straight edged piece of thin paper on which heights, half breadths, etc., are marked in pencil) or dividers, spot the heights of the sheer line, taken from the new drawing, on the body plan, laying off those in the forebody to the right and those in the afterbody to the left of the center line, assuming that you have drawn your boat with her bow to the right, American style. Through each spot draw a short line parallel to the water line. Pick up the spots of the profile on the sheer plan on each station and spot them on the center line, drawing a short horizontal line on



the sections which end below the water line. Now pick up the deck half breadths from the half breadth plan and spot each one on its corresponding height in the body plan. Transfer the water line half breadths to the body plan. Number all the spots. You're ready to sketch in the midship section.

Before doing this, however, you must know the area of the midship section below the water line to get the necessary displacement. Pick out the displacement from Fig. 33 (See page 47, June YACHTING) and reduce the figure to cubic feet. Select the prismatic coefficient to use, say .54 or .55. The displacement is the product of the water line length, the prismatic coefficient, and the area of the midship section. So divide the displacement by the product of the water line length and the prismatic coefficient and the quotient will be the area of the midship section.

With the spots for the rail and the water line half breadths

(Continued on page 76)

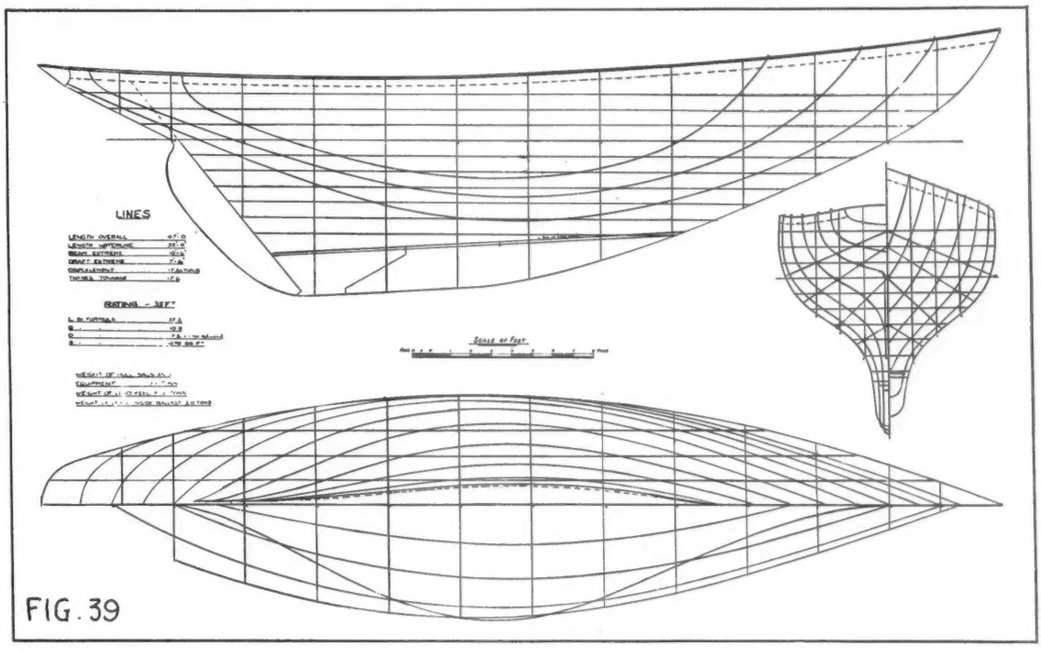


Fig. 39. A set of lines of a 35' water line cutter drawn by the British expert Charles E. Nicholson. She is beautifully fair and is "all one boat," each section melting into the next smoothly, with no humps or hollows anywhere in the drawing. She will repay study

BALE WIRE ENGINEERING

The Three "P's" of Marine Engineering Appear To be Parts, Persistence and Perspiration

By TOM McCAHILL

ANYONE with a reasonable amount of mechanical ability can successfully make repairs on marine engines—providing an ample supply of spare parts and necessary equipment is at hand. Today, spare parts are getting as scarce as the hairs on my head and equipment, such as tools, etc., just can't be had. What is the answer? The answer, if any, is the Bale Wire or shoestring engineer. This type of rare mechanical genius will now be the fair haired boy in any marine center or yacht club he may favor with his presence.

I have always had the deepest admiration for these fellows who can make anything run with anything. As kids, they were probably the boys who bought old Model T Fords for fifteen or twenty dollars and drove them from coast to coast, patching all the way; their ability was, most likely, fostered by necessity rather than science. I have heard it said that a real engine man can make any engine run, regardless of the breakdown. With a few exceptions, I know this to be true. Little things, like a burned out bearing or generator armature, present a small problem to the bale wire engineer; if he can't buy parts, he scours junk yards, old cellars and garages until he finds a reasonable substitute. If his search should fail, he will devise some method — often fantastic — for repairing the damaged bearing, fuel pump or whatever it happens to be. I have seen many examples of his ingenious handiwork.

Perhaps the most startling of the won't-work repairs can be found through the Bahamas and West Indies. There native boatmen, with complete disregard of engineering principles, accomplish installations and repairs that would cause the stomachs of most Detroit Big Wigs to do nip ups. Once, in Haiti, I ran across a big Diesel trader that had been running for months with a wooden belt pulley which operated the entire electrical system and a 40-ton refrigeration plant. This pulley had been hand carved by a native to replace a steel one that had been smashed in a mishap; as far as I know, it's still in service.

Another fabulous repair I once observed — and still find hard to believe — was the reboring of an engine cylinder by a Chinese machinist. He had the stripped block suspended from the ceiling by a rope. His tools consisted of a lighted candle on a stand behind the block, a box of rat tail files, and a small boy to hold the suspended block so that the light from the candle, shining through the cylinder from behind, would light up the desired area. When he had the cylinder in the position he wished, he would file away, checking his work with an inside micrometer. (This also was of an ingenious design.) It took him two to three weeks to finish a six-cylinder engine, and, from all reports, the finished job was close to perfection.

Now I do not expect the average yachtsmen to go to such extremes to make his engine run, but a little applied ingenuity once in a while may be necessary for the duration. If reasonable care is taken of a marine engine, it will cause little if any trouble for years and it's a hundred to one shot that when trouble comes it will be in the battery, distributor, carburetor, etc.

THE BATTERY is the toughest nut to crack, as there is little one can do once a breakdown starts. Fortunately, most batteries can be rebuilt and many battery men have enough plates, etc., on hand to continue this service for some time. Distributor parts are becoming scarce and it's a good idea to stock up with an extra rotor, condenser and a set of breaker points, if still available. If not, hunt up the old ones you threw in your ditty box last year for, more than likely, they

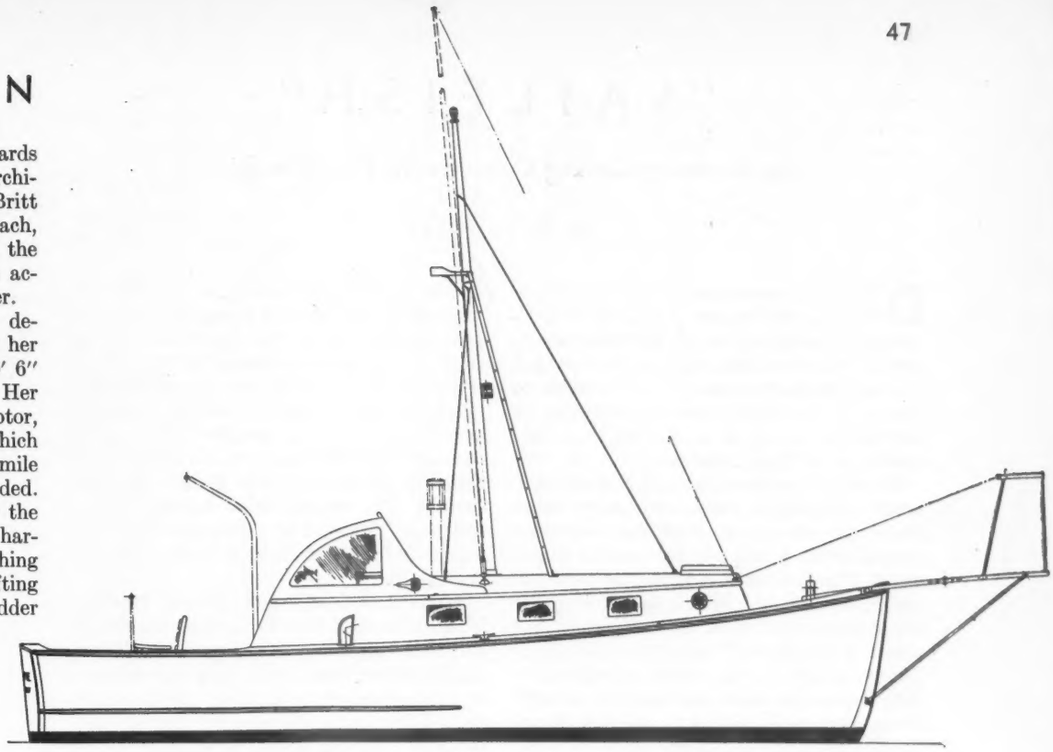
(Continued on page 80)

A FISHERMAN

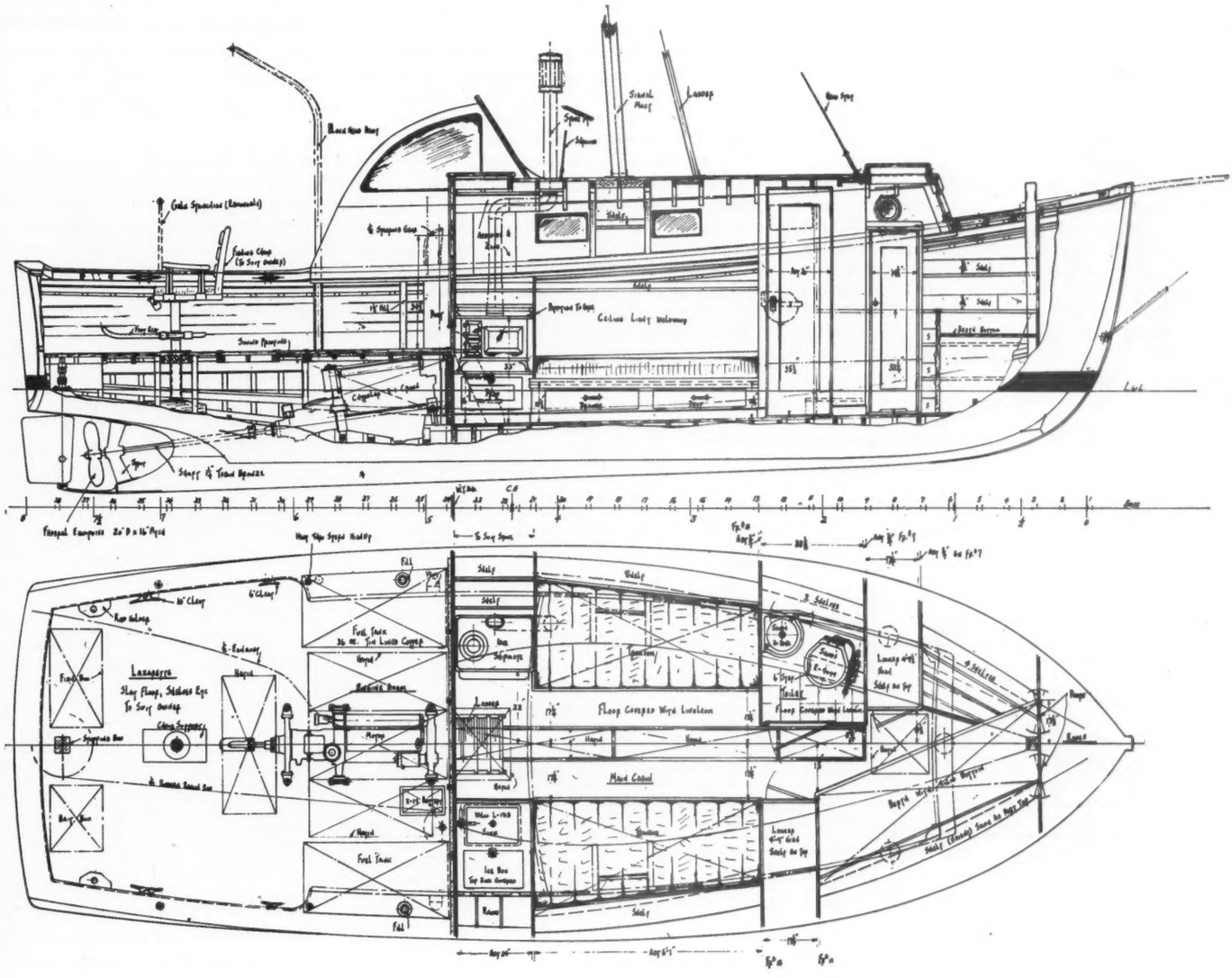
THIS able looking packet is from the boards of Eldredge-McInnis, Inc., naval architects of Boston, and was built by Britt Brothers, of Saugus, Mass., for Reg Leach, of Marblehead. Mr. Leach was one of the best known tuna fishermen and, since acquiring this boat, has become a high liner.

The boat is a husky, simple type, developed to meet the exacting needs of her owner. She is 31′ in length over all, 10′ 6″ beam and slightly under 3′ 0″ draft. Her power plant is a Chrysler Crown motor, fitted with reduction gear of 2:1 ratio, which shoves her along at better than a 12-mile pace. Ample fuel tank capacity is provided. There are the usual fittings carried by the up to date sport fisherman, such as harpooner's pulpit, outriggers, single fishing chair aft, bait box, fish well, davit for lifting the big fellows aboard, and mast with ladder and lookout seat. The mast is stepped on top of the cabin trunk.

Below, the layout shows two transoms in the main cabin, a berth forward, toilet room and compact galley, with lockers, shelves and bins for stowage.



Outboard profile and, below, accommodation plan of the sport fisherman



"SAILFISH"

An Interesting Cruising Cutter for the Post-War Sailor

By R. T. MILLER

DURING these days of unceasing labor to build stout vessels of war in ever-increasing quantities, one must relax occasionally, if only for a few hours in the evening. During these moments one is inclined to dream of the future, the peaceful days we are fighting to return to. *Sailfish* was born during one of these interludes.

She is a far cry from the hard-lined torpedo boats her designer works with daily. Short ends take advantage of all the water line length, 22′ 6″, possible in her over all length of 26′ 0″. The sheer is lively to keep her reasonably dry in a Chesapeake Bay chop. A moderate draft of 4′ 2″ will permit her owner to "gunk hole" to his heart's content. This is one of the major joys of cruising on the Chesapeake, which has hundreds of little rivers and creeks leading to delightfully secluded and protected anchorages. It was decided to give a short level run of keel to make beaching easier. The beam is moderate, 7′ 6″, allowing easy water lines and diagonals. There is ample room on deck and below, however. Moderately hard bilges and turned garboards should make a powerful, fast-sailing little vessel. Her buttocks are easy in entrance and have a flat run which will add considerably to her sailing qualities. The displacement works out to 8,700 pounds, with approximately 3,200 pounds in outside lead ballast.

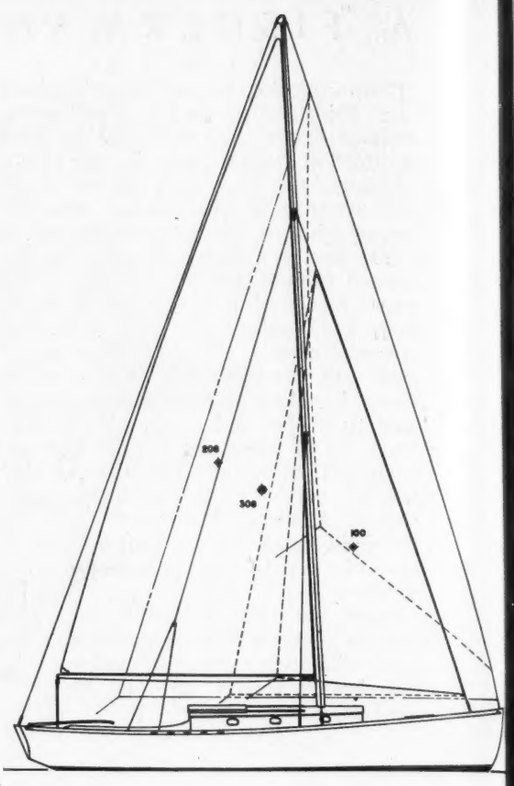
In working out the interior arrangement, at first full headroom was obtained aft by using a doghouse. It looked disproportionately high, however, so was eliminated in favor of a low, level trunk giving 4′ 10″ headroom for the full length of the cabin. It is felt that this will be ample for week-end cruising.

Two comfortable berths are located well forward. It was felt that trying to fit sleeping accommodations for four people below in so small a boat was impractical, so the cockpit seats were made amply large for the average person to rest comfortably on them. A canopy over the boom would provide shelter and I dare say the owner would spend many warm nights in the cockpit, even if only two were cruising. The cockpit seats and the berths will have Fabricoid or canvas-covered foam rubber cushions which will double ably as mattresses.

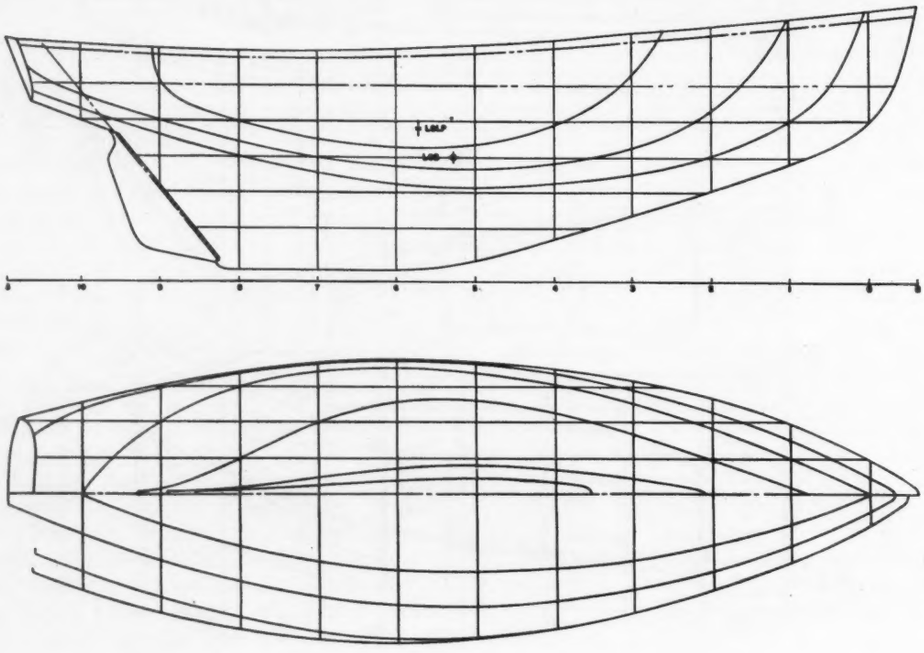
A good-sized sail and general stowage locker is located just forward of the berths and there is good working space aft. Three panels behind each berth open for stowage of bedding. Over them there are generous shelves for books. Stowage for clothing and personal effects is always a problem in the small cruiser, and it is felt that the four shelves or drawers over the seat extension at the after end of the port berth, and the full height locker next to the seat, extending from cabin floor to house top and shut off from the cabin by a curtain, should do much to solve this problem on *Sailfish* and add to the pleasure of cruising. Some stowage space is also provided under the berths.

The location of the water closet aft gives ample headroom over it without resorting to an unduly long cabin trunk and allows it to be partitioned off, with a sliding door for access. The sense of privacy, real or imaginary, thereby obtained is not to be overlooked even in the most bohemian of communities, and certainly not on a family cruising boat.

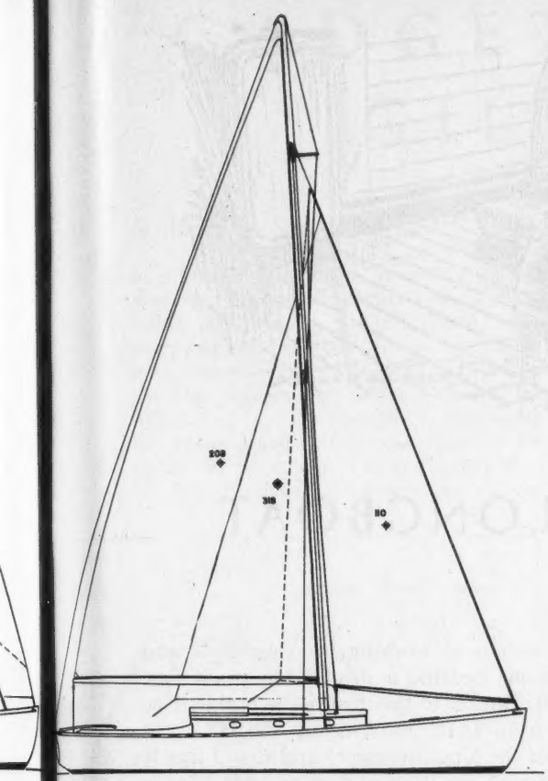
A long dresser top, 30″ above the cabin floor, extends from the after end of the cabin to the berth on the starboard side. Into this dresser top are recessed a sink, an alcohol stove swung in gimbals so that most of the soup will stay in the pot even if the rail is under, and the door to the food compartment of the ice chest; which, incidentally, is filled from the deck, thereby eliminating a great deal of bother below and making the cold beer more accessible to the helmsman. When not in use, the sink and stove have covers



The cutter rig is preferred by the designer as it offers the possibility of a number of headsail combinations to suit weather conditions



The lines show a short-ended boat with a long water line and easy fore and aft lines. She should have plenty of stability



The sloop rig has slightly more canvas, ten square feet, and a good deal less gear for the single-handed skipper to bother with

which fit flush with the dresser top, making a fine chart table of it. Stowage for food and cooking gear will be provided below the stove and sink and on a shelf outboard of the dresser. Dishes will be stored on the shelf over the engine, abaft the companion ladder.

The companion hatch has been located so that the cook can stand up to his or her work in fair weather and a stool will be provided so that he or she can sit comfortably at work in foul weather. The cabin is open, from the after end all the way forward, so that through ventilation may be obtained with the companion hatch and forward access hatch open. The two sliding panels on the cockpit sides give ready access to the fuel and water tank shut-off valves and also provide ventilation for the after end of the boat.

Auxiliary power is provided by a Gray Light Four driving off center. It should drive *Sailfish* comfortably at six knots and have that margin of reserve power so necessary in an emergency. The entire shelf, from the water closet partition to the dresser and from the forward end of the cockpit, forward and down to the cabin floor, is removable for access to the engine.

Except for the floor and stem construction, the construction is normal, with scantlings as follows: frames, 1¼″ by 1¼″ on 9″ centers; deck beams, the same; clamp, 1¼″ by 4″; shelf, 1¼″ by 3″; and planking, ⅞″ finished thickness. The frames extend to the keel and ½″ plywood floors are glued on either side with an oak filler piece between. Bronze or copper quilting fastenings may be used but, with pre-bent frames assembled to the floors with phenolic resin glue properly applied, they should not be necessary. The stem will be laminated of oak in a similar manner. These methods are presently being applied with marked success to the construction of torpedo boats and other small wooden war craft.

The engine bed is of welded steel, so designed that it forms a pan under the engine and collects most of the oil and grease that normally make a most unpleasant mess of the bilges of too many cruising boats.

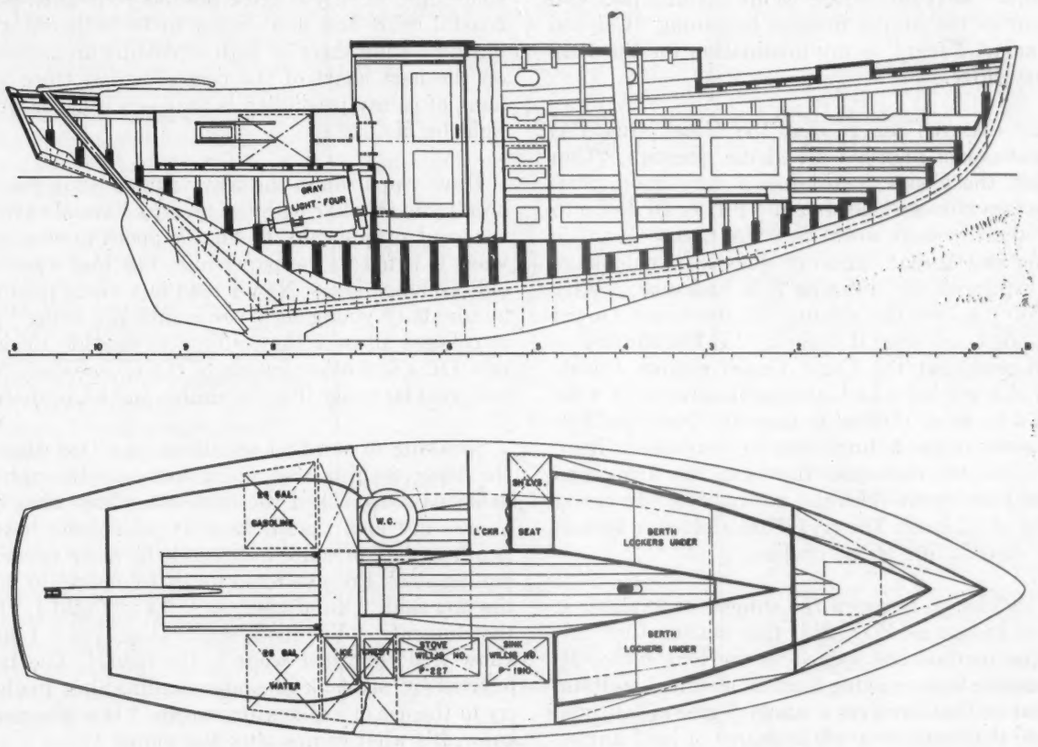
Strides now being made in the lamination of wood will make the above modifications to normal construction practice seem feeble indeed. *Sailfish*, as eventually built, will probably have her entire keel assembly, from stem to horn timber, laminated into one solid structure; her frames and deck beams, if still retained, will probably be laminated of many thin strips into a solid structure integral with the floors; and her cabin trunk will undoubtedly be a laminated structure. The designer greatly regrets that time does not permit his working with this problem more thoroughly now.

Two sail plans have been worked out, one sloop-rigged for the "single-hander" and one cutter-rigged for the racing man. The designer prefers the cutter rig and feels that it is superior to the sloop. Shortened down, it is as handy as the sloop and has only ten square feet less area. The forestay is fitted with a pelican hook and lever so that it can be unshipped and a large masthead genoa set on the headstay in light airs. With both stays rigged, a number of headsail combinations may be worked out to suit various wind conditions.

It is felt that *Sailfish* will prove herself a comfortable and smart little boat, providing many sparkling days of sailing on the Chesapeake or the Sound and happy nights snugged down in quiet anchorages for the cruising sailor, and rewarding the racing sailor for hard work and canny racing skill by staying out in the front rank of the fleet, in short races or port to port runs.

NOTE: *Sailfish* is another in the series of small cruising yachts for post-war use which have been designed for YACHTING. Others, from the boards of a number of naval architects, will follow in subsequent issues.

EDITOR.



Inboard profile and accommodation plan, showing something of the construction

UNDER THE LEE OF THE LONGBOAT

By "SPUN YARN"

IT'S LIKE old times to have people mad at me for what I've injudiciously written on this page. Telltale complains to the Old Man that no more than four months ago he commented on Van Wyck Mason's heroine who was so exiguous that she found refuge from the sun in the shadow of the main sheet, and that it burns him up that I don't do him the courtesy to read his page and so keep from poaching on his preserves. My answer is a soft one to turn away wrath, for I do read "In the Wind" and think that almost without exception it is the best department of the magazine. My defense is that it's next to impossible for me to remember what I myself wrote four months ago, and that if I remembered everything of Telltale's that I've read I'd be in such a continuous fit of laughter that I couldn't put fingers to keyboard. What more can I say to make amends? . . . except that Caleb Bilgewasser is my favorite poet and that his lament in the March number beginning "Calypso is a dipso-Maniac, I fear," is my nomination for the 1943 Pulitzer Poetry Prize.

What really disturbs me is that the Coast Guard is indignant because last month I asked the question, "Can it be . . . that the Coast Guard has a very good press agent and the Navy doesn't need one?" I have no desire to detract from the excellent work that the Coast Guard is doing at home and abroad, and my question would have more nearly expressed my meaning if it had read, "Why doesn't the Navy follow the example of the Coast Guard and let the public know what it is doing?" If I'm thrilled — as I am — to read that the Coast Guard cutters *Icarus*, *Campbell* and *Spencer* have had successful encounters with submarines, I'd be more thrilled to have the Navy publish the details of some of the killings that its own vessels have accomplished. Do you remember how sore the Army was in the last war because the Marines got most of the credit for the fighting at Château Thierry? That's my own feeling in the current distribution of the credits.

With some diffidence, I reopen the subject of navigating by the method known as H.O. 214, first stating that my objection to the method has lodged in the long intercept which is inseparable from working from an assumed position — an A.P., that is, that involves a whole degree of latitude and a longitude that permits a whole degree of hour angle. I am diffident because an eminent navigator has written me that the relative merits of working from assumed and dead reckoning positions became a dead issue years ago. Well, my present contribution to the dead issue is that I've been working sights from D.R. positions by the H.O. 214 method (thus avoiding the long intercept) and that I like it a lot better. It's all there in the introduction to each volume of the book, and you can master the interpolations for hour angle and latitude in ten minutes if you have that much time at your disposal. But most of us, I take it, have never pursued our study of H.O. 214 beyond the correction for declination because we have been told by the authorities that the use of one correction saves time and reduces arithmetical errors. This is true; but the time saved is not much more than a minute per sight and, with practice and close attention, the pencil errors will eliminate themselves. Try it some time when you have plotted your D.R. position on a coastal chart and don't want to be bothered with digging out a plotting sheet or with replotting an assumed position on the next chart of the coastal series. Once you get the hang of it, my prediction is that you'll never work another sight by H.O. 211.

Have you a son in the Navy who is being processed — or aren't you familiar with the term? I have always thought of the word as applicable to what happens to a log of pulpwood when it is fed to the paper mill, but that's just one of my old-fashioned ideas. Now I read in a naval publication that hundreds of young men per month are being "processed" in colleges all over the country to provide Ensigns for the new DE's and other vessels of the seven-ocean Navy. Ours is a great language if we're nimble and keep up with it.

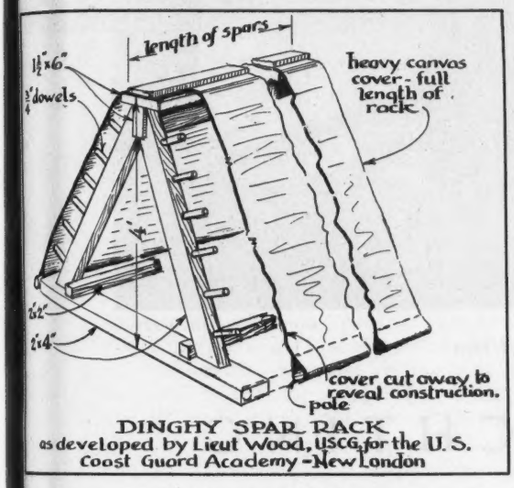
Speaking of words, I sat down to a late dinner in BOQ the other evening and, being half way through a plate of delicious soup, asked the mess attendant what came next. It was my idea that if ham or pork came next I'd have another plate of soup, but that if by some miracle we were having steak I'd save room for it. In answer to my question the boy said: "Yo' dinner, sir." "Yes," said I, "but what is the dinner?" "Yo' food, sir." "Yes, yes," I insisted, "I know that, but just what is the food?" The boy seemed puzzled by my lack of understanding, but made a second try in the use of explanatory words. "It's the meal, sir. You know, it's what comes after the soup."

(Continued on page 82)

"GADGETS & GILHICKIES"

A Shipshape Spar Rack

▶ A mile or two above the railroad bridge over the Thames River at New London, Conn., stands the U. S. Coast Guard Academy, and there recently this scribe had his eyes opened. Lieut. "Jack" Wood, for a number of years past sailing instructor at M.I.T., is now in charge of instructing the young seamen at the Academy in the gentle art of sailing. The equipment that has been supplied by a benevolent government would make a civilian's mouth water. Starting with Dyer 10-footers and working up through 12-footers, Stars and 21-foot knockabouts, one finally comes to such fine cruising vessels as *Curlew, Innisfail, Teragram, Atlantic* and, to cap the list, the famous Danish training ship *Danmark*.



DINGHY SPAR RACK
as developed by Lieut Wood, USCG, for the U. S. Coast Guard Academy - New London

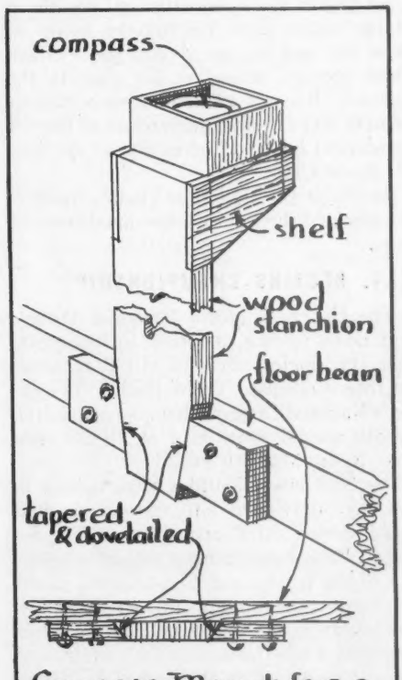
I spent a couple of days at the Academy while they were playing hosts to the Intercollegiate Yacht Racing Association and had a fine opportunity to observe all that went on in the line of dinghy sailing. With Lieut. Wood's permission, I made a rough sketch of the rack he developed for storing the masts of their 12-footers. It was such a neat and practical arrangement that I thought it might be of interest to some other sailing clubs with a small boat fleet.

The rack stands 4′ high and is about 5′ wide at the base. Its length is determined by the spars that are to be stored on it. Fir would be a suitable wood to make it of and, when finished, it should be given several coats of paint or varnish. If it is used indoors, it would be a good idea to equip it with four casters so that it could be moved about easily.

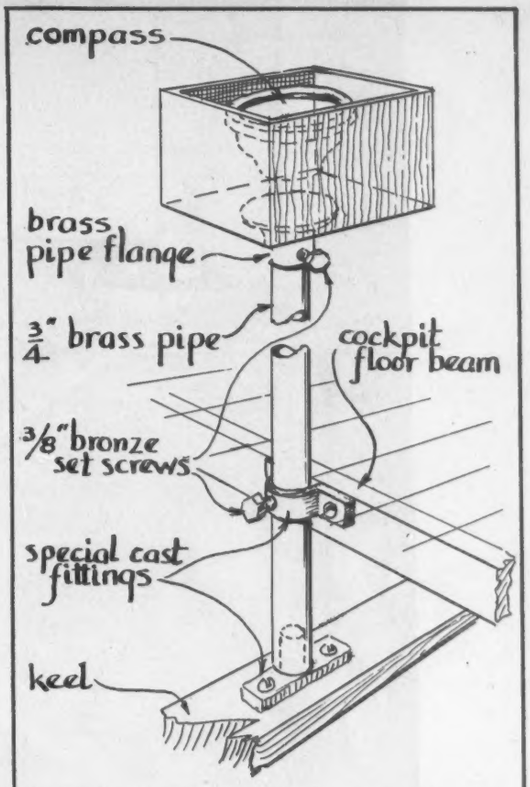
The canvas cover reaches from the ground at one side, up and over the top, and down to the ground on the other side, as indicated. At each lower edge, a long pocket is provided in which a pole of about 2″ diameter is inserted. There is a light batten nailed along the top of the rack to hold the canvas in position. Not shown in the drawing are the end flaps, which are also of heavy canvas and close the ends completely, tying to the side pieces about every 8″ with cotton lanyards. This rack is designed for storing spars outdoors. If intended for indoor use, the canvas cover would not be necessary. For the sake of appearance, however, it should be painted.

A Simple Portable Compass Mount

▶ From time to time we have heard from Liggett Gray, with ideas for small, open boat cruising that are most ingenious. This month he contributes what looks like an excellent design for a portable compass mount. Mr. Gray has installed such a mount in *Jolly Fun* and has given it a real workout so you may depend upon its being practical. He says: "After experimenting with locations, I was glad to find that there was minimum deviation where also the compass is easiest to see from any sailing position, about 1′ forward of the tiller and just below it." The box shown in the drawing is the one that comes with the compass. To its bottom a brass pipe flange is screwed. Into this flange a piece of ¾″ brass pipe is fitted and provided with a set screw to prevent the compass box from turning. The point where the set screw engages the pipe should be spotted with a ⅜″ drill, to insure the lubber line of the compass always assuming the same position.



Compass Mount for a Small Boat using non-strategic materials



The Gray Compass Mount for Small, Open Boats

The lower end of the pipe, passing through the floor boards, slips into special cast brass fittings at the floor beam level and at the top of the keel. The pipe must also be locked in position where it passes through the floor beam casting. The whole unit can be lifted out and stowed in a minute.

This arrangement gives easy view of the compass while sailing, minimum deviation, and is high enough so that good bearings can be taken — and there is nothing to step over when leaving the cockpit.

Variation of a Portable Compass Mount

▶ Under present priority conditions, it would probably be impossible to obtain the materials necessary to make the mount designed by Liggett Gray so I thought it advisable to work out a variation of the same idea, using no materials that would require priorities. This scheme should be apparent from the drawing. It consists simply of a wooden upright or stanchion, the bottom of which is tapered and beveled (or dovetailed) as indicated, and whose top is surmounted by a small shelf to fit the compass box. This shelf will, of course, have sides sufficiently high so there will be no danger of the compass falling out, no matter how far the boat may heel.

The lower, tapered end of the stanchion will be fitted closely between two blocks which are cut to agree with its contour. These blocks may be screwed to a floor beam as indicated or, if for some reason that is not practicable, may be fastened elsewhere. The principal caution is that, when the compass is in position, the lubber line agree with the center line of the boat.

HAM DE FONTAINE

Ellsworth Ford Photo

Speed through the water, 3 knots. Temperature, 88°. State of mind, bliss

THE MONTH IN YACHTING

NAVY NAMES DE FOR YACHTSMAN

▶ News came from Boston recently that a new DE was launched at the Boston Navy Yard bearing the name U.S.S. *Lovering*. She was named for the late Ensign William B. Lovering, USNR, of Saugus, Mass., who was killed in the Battle of Midway on June 6th, 1942, while serving as communications officer in the U.S.S. *Hammann*. The following quotation is from a letter of a brother officer to Ensign Lovering's father: "In the action off Midway on June 6th, the *Hammann* was hit by two torpedoes from a submarine and sank in less than two minutes. He was in the water and swam back to help some injured men of his crew when an underwater explosion from the sunken ship killed and hurt many — Bill mortally. He was buried at sea that afternoon."

Ensign Lovering was a member of the Cruising Club of America and a well known sailing man. It seems appropriate that the Navy Department should pay this tribute to one who gave his life for his country while going to the aid of his shipmates.

EDWARD SOUTHWORTH

▶ Taken ill at his desk in the Southworth Paper Company, of West Springfield, Massachusetts, of which he was secretary and treasurer, Edward Southworth died suddenly on the afternoon of May 17th. He was born in August, 1885, the son of the late Dr. and Mrs. George C. S. Southworth.

An ardent sailor, he sailed all his life in Maine waters from his summer home on Deer Isle and he was aboard the *Twilight* which finished second in her class in the Bermuda Race of 1932. He was a charter member and the first commodore of the Off Soundings Club, and Commodore of the Deer Isle Yacht Club.

Besides his wife, the former Virginia Sprague, of Cleveland, he leaves three daughters and a son.

M.I.T. REGAINS CHAMPIONSHIP

▶ The Henry A. Morss Memorial Trophy went home for the first time in four years when the dinghy sailors of M.I.T. regained the Inter-Collegiate Yacht Racing Association's National Dinghy Championship in the seventh annual series held on the Charles River Basin, May 8th–9th.

The 1943 championships were unique in that they developed into virtually a dual meet between M.I.T. and Harvard. The defending Brown club made a gallant attempt to hold the trophy and Coast Guard might have been in the running but for some costly errors early in the racing but, as the series was sailed, it was Harvard or Tech all the way after a brief flurry on the part of Williams.

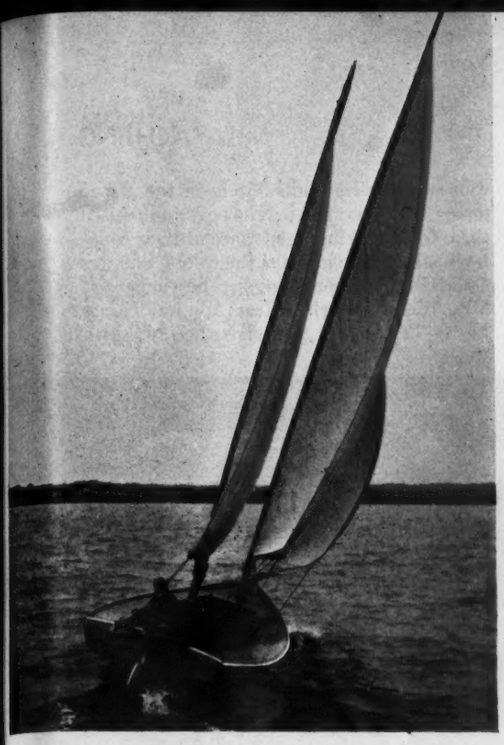
The series opened under ideal conditions but a late squall on Saturday destroyed a good racing breeze and on Sunday a tricky westerly wrought havoc with good sailing conditions. Yet the Tech and Harvard skippers consistently placed well despite fluky weather.

Harvard led in the first races, Dave Noyes taking a first and George O'Day a second in the other division as Sam Parkinson, of M.I.T, withdrew after a foul against Noyes. In the next races, Noyes suffered a disqualification which destroyed the Crimson's big advantage as Parkinson and Harold Boericke scored a double win for M.I.T. The squall disrupted a third race on Saturday, so the leader's scores at the end of the first day's racing were: M.I.T., 31; Harvard; 28, Williams, 27, and Coast Guard, 24.

In the first three races sailed Sunday Tech held the upper hand, Parkinson and Boericke each scoring a pair of wins, but Noyes and Harvard's co-skipper pairing of O'Day and Johnny Burton hung on desperately to score a first, three seconds, and a third. Yet Tech had gradually increased its margin, as Brown moved into third place and Williams dropped to fifth behind Coast Guard.

Then Noyes took second in the first division and O'Day landed on top in the second as Parkinson slipped to sixth and Boericke dropped to fourth to make the score M.I.T. 99, Harvard 98. In the seventh race, the score was tied at 116.

Noyes beat Parkinson for second place in their heat of the eighth race; but in the second division, O'Day was outmaneuvered by Boericke and others at the lee mark to drop from second place into the ruck as the Tech skipper



A 22-foot Chesapeake Bay crabbing skiff on the Potomac. She is owned by Linton Rigg

finished third. Thus M.I.T. went into the final contests leading 132 to 130 and Parkinson and Boericke scored a pair of firsts. Thus the Morss Trophy was restored to the niche originally built for it in the Commodore's Room of the M.I.T. clubhouse. Parkinson and Boericke accomplished a pretty job in reversing a slim year-long edge that Harvard had held on Tech in dinghy sailing. Each won five of nine starts and Boericke took the high point honors for the regatta. The final scores were: M.I.T., 152; Harvard, 145; Brown, 123; Coast Guard, 110; Northeastern, 102; Williams, 99; Dartmouth, 80; Stevens Tech, 76, and Haverford, 62. L. M. FOWLE

WILBUR H. YOUNG

▶ A veteran of more than forty years in the field of motor boating was lost to the sport with the death of Wilbur H. Young on May 12th, at his home in New York City. He was a prominent figure and was the first commodore of the Regatta Circuit Riders Club, familiarly known as the RC², which he helped to found. He held office in many other boating organizations and drove many a speed boat in regattas all over the country. He was a pioneer distributor of boats and marine engines and was well known to all motor boat devotees. A genial character, he will be missed when the racing circuit opens again.

CALENDAR

July 3 — Annual Regatta, Royal St. Lawrence Y.C., Montreal, Quebec.
July 11 — Annual Regatta, Lorain Y.C.
July 24 — Falcon Cup Race, Rocky River-Mentor Harbor, Mentor Harbor Y.C.
July 24–25 — Annual Regatta, Sandusky S.C.
July 25 — Annual Regatta, Mentor Harbor Y.C.
July 31–August 7 — Marblehead Race Week.
August 1 — Annual Regatta, Cleveland Y.C.
August 6–7 — Twentieth Annual Regatta, Edgartown Y.C.
August 8–12 — I.L.Y.A., Anniversary Regatta, Put-In-Bay, Ohio.
August 14–15 — Annual South Shore Regatta, Vermilion Y.C.
August 23–29 — Star Class World's Championship Skipper Races, Great South Bay, L. I.
September 4–6 — Twenty-third Annual Fish Class Championship, Sir Thomas Lipton Trophy, Gulf Y.A., Pensacola, Fla.

Whether on davits or trolling at sundown, the outboard launch is the fisherman's delight

Lake Michigan Y.A.

July 2 — Annual Saugatuck Race, Jackson Park Y.C.
July 3–4–5 — Star Class, Sterling Morton Trophy Race, Chicago Y.C.
July 3–4–5 — Annual Garden Bay Race, Escanaba Y.C.
July 4 — Annual Lake Macatawa-Chicago Race, Chicago Y.C.
July 17 — Chicago-Mackinac Race, Chicago Y.C.
July 18 — Midsummer Regatta, Sea Gull Finals and 21-Mile Island Race, Escanaba Y.C.
July 24–25 — Annual 100-mile Race, M & M Y.C.
July 27–August 1 — Annual Cruising Race, Escanaba Y.C.
July 31–August 1 — Virginia Trophy and Milwaukee Journal Regatta, Milwaukee and South Shore Yacht Clubs.
August 5–6–7 — Lipton, Nutting, Gehrmann Trophy Races for R, S and Tumlaren Classes, Chicago Y.C.
August 14–15 — Green Star Championships, Chicago.
August 15 — Regatta, South Shore Y.C., Milwaukee.
August 20–21 — Great Lakes Star Championships, Sheridan Shore Y.C., Chicago.
August 22 — Annual Wind Point Race, Milwaukee Y.C.
August 29 — Annual L.M.Y.A. Regatta at Chicago.
September 3–6 — Tri-State Race, Chicago-St. Joseph-Michigan City-Chicago, Chicago, Columbia and Jackson Park Y.C.
September 4–6 — Star Class Shipping Board Trophy Races, Chicago.
September 11–12 — Lutz Trophy Race, Class, Q (Eight-Metres to rate as Q's), Jackson Park Y.C.
September 19 — Annual Sheldon Clark Regatta, Chicago Y.C.

Y.R.A. of Long Island Sound Championship Races

July 3 — Horseshoe Harbor Y.C.
July 4 — New Rochelle Y.C.
July 5 — Larchmont Y.C.
July 11 — Indian Harbor Y.C.
July 18 — American Y.C.
July 25 — Stamford Y.C.
August 1 — Larchmont Y.C.
August 8 — Riverside Y.C.
August 15 — Huguenot Y.C.
August 22 — New York A.C.
August 29 — Port Washington Y.C.
September 5 — Seawanhaka Corinthian Y.C.
September 6 — Larchmont Y.C.
September 12 — Manhasset Bay Y.C.
September 19 — Indian Harbor Y.C.
September 26 — Horseshoe Harbor Y.C.

Non-Championship Races

July 10 — Echo Bay Y.C.
July 17 — Horseshoe Harbor Y.C.
July 24 — Manhasset Bay Y.C.
July 28–31 — Larchmont Race Week.
August 7 — Riverside Y.C.
August 14 — Manhasset Bay Y.C.
August 21 — Horseshoe Harbor Y.C.
August 28 — New Rochelle Y.C.
September 4 — Larchmont Y.C.
September 11 — Manhasset Bay Y.C.
September 18 — Indian Harbor Y.C.
September 25 — Horseshoe Harbor Y.C.

Chesapeake Bay Y.R.A.

July 3–4 — Regatta, Rock Hall Y.C. (Tentative).
July 4 — Regatta, Hampton Y.C.
July 10 — Gibson Island-Annapolis Race, Annapolis Y.C.
July 10 — West River-Annapolis Race.
July 10–11 — Regatta, Annapolis Y.C.
July 17–18 — Regatta, J. Rulon Miller Series for Stars, Gibson Island Y.S.
July 24–25 — Regatta, Chester Y. & C.C. (Tentative).
July 25 — Poplar Island Race, Gibson Island Y.S.
July 31–August 1 — Regatta, Cambridge Y.C. (Tentative).
August 6–7 — Regatta, Miles River Y.C.
August 8 — Race Back from Miles River, Maryland Y.C. (Tentative).
August 13 — Gibson Island-Oxford Race, Chesapeake Bay Y.C.
August 13–15 — Regatta, Tred Avon Y.C.
August 14–15 — Races, Chesapeake Bay Y.C.
August 21–22 — Regatta, Sparrows Point Y.C. (Tentative).
August 28 — Races, Naval Academy Y.S.
August 28–29 — Regatta, Indian Landing B.C.
August 28–29 — Regatta, Rappahannock Y.C.
September 4 — Cedar Point Race, Gibson Island Y.S.
September 5–6 — Regatta, West River S.C.
September 11–12 — Regatta, Urbanna Y.C.
September 11-12 — Regatta, Elk River Y.C.
September 18–19 — Regatta, Potomac River S.A. (Tentative).
October 3 — Start of Fall Series, Annapolis Y.C.

Intercollegiate Yacht Racing Association

(Tentative)

July 24–25 — Star Class Championship Regatta, Coast Guard Academy.
August 21–22 — Fowle Memorial Trophy Regatta, Nautical Association of M.I.T.
September 11–12 — Danmark Trophy Regatta, Coast Guard Academy.

PENGUINS JOIN THE NAVY

▶ One of the largest Penguin fleets in the United States is going full blast at the San Diego (Calif.) Naval Training Station, where 18 of the trim dinghies can be seen sailing these days. And, typical of the present day Navy, it is not uncommon to see an enlisted man at the tiller and an officer as his crew.

The fleet had its beginning last year when Capt. H. C. Gearing, USN, commanding officer of the Station, authorized the purchase of a single Penguin for use by the officer personnel. It did not take long for the Penguin to catch the eye of men at the Station, and nine more boats were ordered.

Foreseeing the educational and recreational possibilities of the boat, Station officials decided to extend an opportunity to all enlisted personnel to sail the dinghies. In the words of one officer: "As in most activities, various problems arose from this rapid expansion. To anticipate future demands, it was necessary to obtain additional boats, which proved quite a task owing to priorities. This obstacle was finally overcome by the purchase of eight more boats, and the fleet now consists of 18."

Another problem was that of the large demand from inexperienced men wanting to sail. At this stage, it was decided to hold group instruction for neophytes. Classes consisting of 160 men each were held twice each day. Instruction included rigging, launching and care of the boat, as well as the rudi-

Courtesy Evinrude Motors

ments of sailing; tacking, dangers of jibing, safety measures and the like.

Instruction is given ashore, with a Penguin on a dolly in front of the class. She is rigged, then unrigged and later launched, thus giving the men a general idea of how to handle her. Following these preliminaries, men are permitted to sail in company with an experienced sailor until the men are considered competent to sail alone.

On the last Saturday of each month, teams are picked to compete for the Captain's Trophy, a perpetual prize donated by Captain Gearing. Competition is keen as enlisted men and officers — frequently paired in the boats — race against each other. There is always a good turnout. The winning skipper's name is inscribed on the trophy and he and his crew are given a miniature Penguin.

The Training Station also has raced with the San Diego Yacht Club Penguin fleet. "These races have promoted a most pleasant relationship between this club and the Station personnel. They have proved extremely enjoyable to both participants and spectators, and good fellowship reigns," according to an officer.

The best the Station Penguins have done so far is a fourth place, but the boys are learning fast and getting better. In the San Diego Y.C. championships last fall, nine out of the 22 entries came from the Station. The club awarded prizes for the first three Service boats to finish.

The Station has a neat arrangement for storing some of the Penguins. A shed is equipped with ten racks, five to a layer. Each rack has a roller at the outer end, to facilitate moving. Two dollies, one at the height of the lower rack and the other designed for the upper one, make storing a simple matter. From the shed, the boats are rolled down a ramp to a float and into the water.

Here is the way the Training Station sums up the program there:

"In the final analysis, the Penguin program at this Station has proven itself, since it affords the men countless hours of enjoyment. Many valuable sailing points have been learned by men inexperienced in sailing. These points undoubtedly will hold them in good stead during the days to come. Regardless of the fact that many have become charter members of the Bottoms-Up Club, the Penguins are in the Navy for the duration or perhaps forever."

Any man on the Station may use the Penguins except those who are in quarantine and men who can not swim. Judging from the popularity of the dinghy, it's an added inducement to learn to swim.

PENGUIN PETE

The Navy's new LCI troop-carrying barge. They are manned by Navy and Coast Guard personnel

Top, San Diego bay frequently presents this scene as bluejackets and officers of the San Diego Training Station race in their fleet of Penguins. Right, Mrs. Theodore Roosevelt presents certificates to the Oyster Bay, L. I., high school boys who successfully passed the course sponsored by the Seamanship Training Corps. Left to right, Rear Admiral Lamar Leahy, USN (Rtd.), Mrs. Roosevelt, and Lt. Percy S. Weeks, USCG Reserve (T)

Official U. S. Navy Photos

MRS. THEODORE ROOSEVELT AWARDS SEAMANSHIP CERTIFICATES

▶ Carrying on her husband's devotion to the work of preparing young Americans to serve their country at sea, Mrs. Theodore Roosevelt presented the certificates marking completion of the Seamanship Training Corps course to a group of Oyster Bay, Long Island, high school boys at her estate at Oyster Bay on June 9th.

Mrs. Roosevelt has been an interested backer of the seamanship training program which was organized in January by a group of local yachtsmen and has since spread into fifteen states. Courses are given for sixteen- and seventeen-year-old boys who wish to prepare themselves to enter the seagoing services when they attain eligible age, and the first group was that started in Oyster Bay High School. All the boys who received the certificates are Oyster Bay pupils and the school graduation included special ceremonies in their honor.

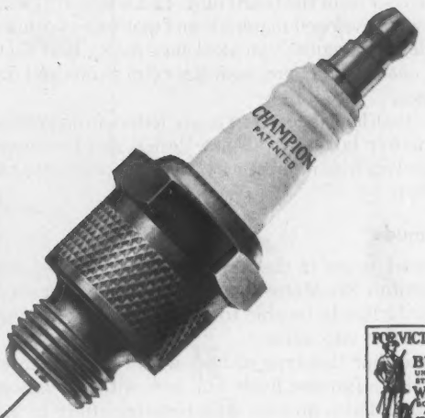
As a mother who lost one son in the last war, and has two others, Brig. Gen. Theodore Roosevelt and Major Archie Roosevelt, as well as several grandchildren, in the armed forces, she congratulated the boys and praised them for preparing in advance of their country's call for service with the colors. She was flanked at the ceremony by her daughter, Mrs. Richard Derby, Rear Admiral Lamar Leahy, USN (Ret.), who spoke briefly, Lieut. Comdr. Harry C. Garrison, USN (Ret.) representing the Commandant, Third Naval District, and Percy S. Weeks, USCG Reserve (T). Mr. Weeks, who is a lieutenant in the Coast Guard Temporary Reserve, was the original sponsor of the Seamanship Corps and has been instrumental in its expansion. Glenn Hallady, Principal of the school, and John Gibb, Coast Guard Temporary Reserve, instructor of the class, also participated.

The Seamanship Training Corps, which is being carried on with the coöperation of the Navy, Coast Guard and War Shipping Administration under the chairmanship of Mr. Weeks, is now conducting classes in more than 100 communities. In most cases, the classes, limited to boys of 16 to 18 years of age, are conducted in the late afternoon or evening in high schools and many of them are taught by high school teachers with a background of either yachting or naval experience.

The officers of the Seamanship Training Corps are, in addition to the President, Percy S. Weeks; vice president, Drake H. Sparkman; treasurer, J. B. Shethar; and secretary, Dr. Merle H. Frampton.

Press Association Photo

CHAMPION SPARK PLUGS



are "right in there punching" when our forces "hit the beach"—in landing boats and barges, in jeeps and tanks, too. The dependability of Champion Spark Plugs is reflected in the dependability of American-built engines of all kinds on all war fronts.

Champion Spark Plugs travel far these days to bring dependable ignition to our armed forces on water, land and in the air.

Special methods of packing developed for our armed forces, in cooperation with the War Department, assure their arrival in ready-to-use condition regardless of temperatures or conditions—including complete immersion in sea water for protracted periods.

Thus Champion insures that traditional dependability of Champion Spark Plugs that has always made them first choice of marine engine designers, boat builders and the boating public alike.

Our first obligation is to the men of our armed forces, so give your spark plugs the regular inspections, testing and cleaning that they deserve in order to keep them in service for the longest possible time. If you must have new spark plugs, insist on Champions, because they insure better engine performance and greater dependability.

TO SAVE GASOLINE • KEEP YOUR SPARK PLUGS CLEAN

WHAT OUR READERS SAY

▶ In the April issue of YACHTING there appeared the plans and description of a post-war racing cutter from the board of A. E. Luders, Jr. Designed to take advantage of newly developed materials and methods of construction, she would be, to quote her designer, "an ideal class racing boat that would offer the keenness of one-design racing with the extra thrills and diversion afforded in open classes."

Mr. Luders reports that he has received many letters from veteran skippers who were immediately taken by this new design, and the character of their comment provided such an interesting variety of opinion that a few of them are here reprinted.

From Hamilton, Bermuda

▶ I was most interested to see in the April issue of YACHTING your proposed design for a substitute Six-Metre boat. This interested me very much, so much so that I would like to be able to place an order with you right away but, of course, that is impossible.

It would seem to me that this type of boat would be most interesting because it should provide a fast and lively hull and, with the various combinations of sails, it would also provide an interesting study in sail combination. As far as cost is concerned, the relatively light displacement and modern method of construction of the hull should make the cost of the hull not expensive and far less than that of a Six-Metre. However, the large number of sails required would be fairly expensive but, be that as it may, I congratulate you on a most interesting study and carefully thought out design.

Without knowing a great deal about it, I would be glad to have your reaction to adding 3″ to the beam of the proposed boat. My reason for suggesting this is that I feel there would be more deck room and the additional beam would provide stability. Inasmuch as you have a light displacement boat, I think this might be advisable.

KENNETH F. TRIMINGHAM

From Beverly Hills, California

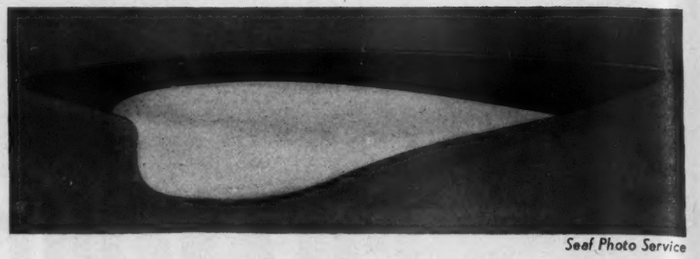
▶ The general reaction to the rig and sail plan of your interesting design in April YACHTING runs something like this: "It looks wonderful, and the great range of possible sail areas should be ideally suited to racing in Southern California; but I'd sure like to sail with that rig several times before I'd consider buying one." One of my friends, a keen racing skipper, has raised the question of whether three tracks might not amount to considerable weight aloft. The only definite objection to the general idea of the rig, which I have heard voiced, is that the use of a number of different sizes of mainsails and spinnakers would run the cost of sails way above that in other one-design classes.

The hull seems to evoke some such comment as this: "My, what a beautiful set of lines. She certainly should be fast. But she does look a bit narrow. I wonder what the effect on her performance would be if she had a few inches more beam? If it would hurt her, I'd rather have her the way she is; otherwise, I'd rather have the added comfort of a little more beam."

As to my own opinions I like the boat very much indeed. While she may not be exactly what I'd have tried to design myself, she does come much closer to what I have been waiting for than anything else I have yet seen either on paper or in the water. The size seems well chosen. I probably feel that way because this is about as large a boat as will be within my financial reach. If you designed her to a 21 or 22 foot water line, the class would probably be accessible to more people and might still not be too small for a class of this type.

In common with almost all skippers to whom a boat such as yours will appeal, when I buy a boat I intend to use her primarily for racing. Nevertheless, there are a lot of us who like to do a certain amount of day sailing in addition to our racing, and must do it in the same boats. My present boat, of the one design Pacific Class (PC) measures 31′ 10″ over all, 21′ 0″ on the water, 6′ 8″ beam, 3′ 6″ draft, displacement 4800, ballast 2400, sail area 385 plus a big spinnaker. This boat has satisfied me very much as she makes an excellent day sailer and is fast in anything but the lightest weather. So, I wonder whether your boat might not be considerably more comfortable and only little, if any, slower if she were slightly beamier and slightly lighter; in other words, if you departed just a little more widely from the conventional Six-Metre type. Maybe not; maybe it would slow the boat down too much. But I'm sure it would make it more comfortable. To mention a minor point, our PCs have the bottoms of their lead keels cast flat *transversely* for a short distance, and we have found that this greatly simplifies hauling out in small yards which do not have special cradles for boats of this general type, and I doubt if it has any really significant effect on the boats' speed. The lines of your new design I like very well.

I like the sail plan, too. My crew and I have always prided ourselves on smart sail handling, smooth spinnaker technique, and so forth, and we should be able to have a lot of fun with an array of light sails such as your plan includes. The backstay gadget looks good; in fact, the whole rig looks as though you have given it a great deal of thought and consideration.



Seaf Photo Service

The model of the post-war cutter designed by A. E. Luders, Jr., reveals a light displacement hull having a beautifully formed underbody and graceful ends

I know that you are very busy, but in case you can find time to drop us a note, the questions which my friends and I should like to ask are these:

1. Do the three mast tracks result in objectionable weight aloft?
2. How would a slight increase in beam and/or a slight decrease in displacement affect performance?
3. Even roughly, can you estimate the percentage by which new methods of construction would decrease the cost of such a hull?

I am quite enthusiastic about the boat. WILLIAM J. BANGS

From a Detroit Yachtsman

▶ Your design for a racing cutter in April YACHTING is a breath of fresh air to a chap who has been nursing a 30-Square-Metre in this atmosphere of R's, "Sixes" and "Eights." Perhaps it will have a limited appeal. So few people realize what a 1:6 beam to length ratio does for a boat; but to those who do, the yen for such a boat will be overpowering.

I hang on to my old "30" for many reasons:

Because, with the war time scarcity of hands, Mr. and Mrs. Vance can sail her, even race her.

Because she holds her own, race after race, with boats spreading three times the canvas and toting three times the ballast.

Because she is drier and handier in a seaway than these boats of greater displacement and almost double the freeboard (where they bury, she lifts).

Because, until the April YACHTING arrived, it seemed that no American designer had learned what Aas and Reimers and Rasmussen had been practicing for fifteen years and more: the possibilities and advantages, in both speed and weatherliness, of decreasing rather than increasing ballast and sail area.

The following is the writer's thinking after a three times reading of the text and an eye-straining examination of the plans:

The Old 30	L.O.A. 37′ 10″	Beam 6′ 3″	Draft 4′ 6″	Displ. 4500	B'lst 2200
The New Luders	L.O.A. 36′ 0″	Beam 6′ 0″	Draft 5′ 0″	Displ. 6500	B'lst 4500
The Old 30	L.W.L. 25′ 0″	Sl. Area 323	Truck-Deck 36′		
The New Luders	L.W.L. 24′ 0″	Sl. Area 350	Truck-Deck 36′		

QUERY — Why is double the ballast required in one than the other? (Answer is probably a huskier mid-section)

Will the new carry more canvas longer than the old? In the old, I do better with a roll in the main above 18–20 m.p.h. of breeze. Bury her rail and she slows up.

SUGGESTION — Put more crown in the deck; drop the floor a foot; build in two narrow bunks and arrange a temporary floor between the bunks for racing. Then, when we go to Toledo or Put-in-Bay for regattas, crew can tuck themselves away overnight without looking for a hotel.

MYSTERY — The tackle and lever for running backstays. Sounds interesting but unfathomable from the description.

MOULDED PLYWOOD SKIN — How fastened to the frames? Strength in the old "30" lies in the planking, ¾″ Honduras riveted through oak frames on 8″ centers; and many 1¼″ oak bilge floors. Will the preformed plywood skin need many fastenings; or will its permanent mould serve the same purpose?

LOOSE FOOTED MAIN — Would it be miter-cut like a genoa? The sailmaker had better be right on this one. Even set on a boom, these long, narrow mains take a lot of coddling. Otherwise, she won't both point and foot to windward.

HURRAH for the big "spinnies." I can pass the fleet to windward, stay with them on a reach; but God help me if I start a slide no better than even.

P. S. Thanks for a grand evening under the lamp. K. W. VANCE

Here are reproduced both sides of a post card, recently received from a man who tells in a new way, that,

LUDERSHIP SPREADEAGLE MEANS ☆

George I can honestly say that PC--- has proven your statement. If a job is worth doing it's worth doing right. She was ready and fit to go on when we arrived. For one am proud of her.

We are in Africa now. Be sure to write on the front of this card the information that I can't and post it where every one can see it that had a hand in making PC---what she it. Make the rest of them as good and they will serve us well.

As ever
Jim Maher

Luders Marine Construction Co. Stamford, Conn.

TO THE SHORES OF TRIPOLI . . .

THE American heroes who are carrying the war to the enemy from North Africa today are not the first to let our guns speak for liberty along "the shores of Tripoli."

In a manner which has become typical whenever our freedom of the seas was at stake; the young, but tough America of 1801 decided to put an end to the depredations of the piratical Barbary States. In 1803 a squadron of our warships appeared off Tripoli. The men of this fleet had come thousands of miles from home to ask no quarter and to give none in the battle to preserve the integrity of the American flag on the high seas. Typical of the fighting spirit that finally forced the pirates to their knees, is the story of the ketch *Intrepid*.

The Tripolitanian fleet had been blockaded in the harbor for some time and long range bombardment of the town and bay seemed to be ineffectual. Becoming restive under the stalemate, the Americans loaded the *Intrepid* with shot, shell, scraps of iron and a hundred barrels of gunpowder. Under the command of Captain Richard Somers and with twelve men aboard, she was to be sailed silently into the midst of the enemy ships and blown to kingdom come.

While taking his departure Somers swore that if the ketch was discovered before it had accomplished its mission, he would blow her up with all on board rather than submit to capture. Somers was true to his word, for not long after the *Intrepid* had left her escort vessels at the harbor mouth someone was seen jumping down the hatchway with a torch . . . a tremendous explosion followed and the ship was no more.

Not one of the *Intrepid's* gallant crew survived to tell the details, but in their very absence they told a story of heroism and devotion to duty that will live as long as America.

Hubbard's South Coast Company is proud to be building fighting ships for America's gallant Navy of today that is daily adding new feats of valor to its century and a half of tradition.

ARMY E NAVY

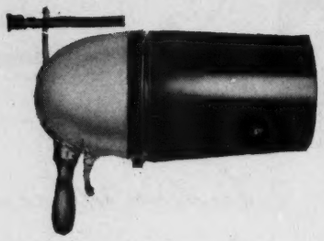
HUBBARD'S South Coast Co.

NEWPORT HARBOR, CALIFORNIA

WATERFRONT NEWS

By "BEACHCOMBER"

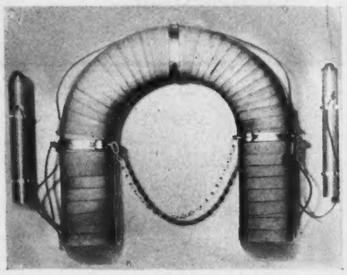
FEATHERWEIGHT "MASTER LIGHT" SIGNALING LIGHT



▶ One of the most compact signaling lights now on the market is the Carpenter Manufacturing Co.'s type BSF5 "Master Light." Measuring only 12½" long by 6" deep, and weighing 64 oz., it is capable of flashing a 75,000 candle power beam visible fifty miles under favorable conditions. Powered by a 6-volt dry battery unit, it can either rest on deck or be carried over the operator's shoulder in a sling.

The light's bulb and switch are of special construction, giving fast action. Operation is by means of a standard trigger finger action. Of special interest is its two-filament bulb, thereby guaranteeing operation even though one may have burnt out. Carpenter Manufacturing Co., 179 Sidney St., Cambridge, Mass.

BALSA WOOD LIFE BUOY



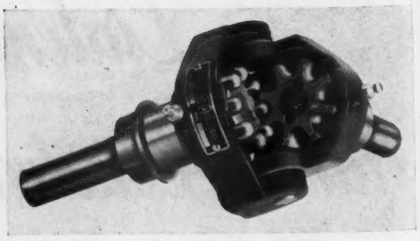
▶ A new note in life buoys is to be found in the Raynor-Norris Franklin type model which is built to current Navy specifications. The complete unit includes a seat chain, release link and two electric water lights which are securely attached to the buoy itself.

Constructed of Ecuador balsa wood, the many individual pieces are cut to the required shapes and laminated to final form over a plywood center support. Complete waterproofing is accomplished by many coatings of waterproof cold patch glue, muslin covering, varnish and canvas, treated with copper naphthanate. Raynor-Norris, 50 Broad St., New York.

BREIDERT MARINE AIR-X-HAUSTER

▶ Not "just another ventilator" but incorporating an entirely new principle in ventilator design, is the well-substantiated claim of the manufacturers of the Air-X-Hauster. Whether at sea or in port, this device provides safe, sure ventilation no matter which way the wind blows. When air currents coming from any direction strike the V-shaped faces of the Air-X-Hauster, they are deflected away and across the air outlet openings, creating a powerful syphonic action which sucks out the air inside. G. C. Breidert Co., 634 South Spring Street, Los Angeles, Cal.

PIEZO UNIVERSAL GEAR JOINT



▶ This mechanism makes possible the operation of shafts at any angle from a straight line to bends up to 92°, and with relatively small loss in turning power.

A radical departure from the ordinary systems of transmission of power at angles, the rugged ball and socket gears are hinged at point of contact to enable efficient operation at angles from 0° to 92°. Piezoelectric Laboratories, 110 East 42nd St., New York.

HOW YOUR COOPER-BESSEMER IS SERVING

ALERT IN THE ALEUTIANS

SOMEWHERE west of Kodiak this PC boat is on patrol. Twin Cooper-Bessemer diesels drive her through fog and mists, as she carries out her part of the mission to exterminate the last of the Jap invaders on American soil.

Maybe those patrol boat engines are the ones you might have had . . . if Uncle Sam hadn't needed them more. Anyway, they're working for you . . . serving you . . . just as surely as if they were powering your own vessel right now.

Day and night, this PC boat and scores of other Cooper-Bessemer powered ships are helping to bring ever closer the time when you can order and get the dependable C-B diesels you need and want so much.

THE Cooper-Bessemer CORPORATION
Mt. Vernon, Ohio • Grove City, Pa.

BUILDERS OF DEPENDABLE ENGINES FOR 110 YEARS

seam putty *that stays flexible*

Probably there is no accessory item used by the marine painter that can help him or hinder him more than putty, depending upon whether it is good or poor. International Hull and Deck Putty is just the right consistency to work in easily and surface smoothly. While it stays flexible beneath, the skin drys quickly permitting it to be painted over without delay. Master painters in the most progressive yards tell us that it is the best seam filler they have ever used. Available in antifouling for use below the water-line and in paint colors for topsides, decks and interiors. Remember, a good putty enables you to do better work, quicker. Used for the Army, Navy and Coast Guard.

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HULL PUTTY AND SEAM COMPOUND

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International Paint Company, Inc.
New York City — 21 West Street
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AGENTS IN EVERY IMPORTANT PORT

HULST ELECTRIC EMERGENCY LIGHT

▶ Measuring 9″ by 5½″ by 3½″, and weighing but five pounds, this light is self-actuated, requires no central source of current for illumination, and lights automatically on any interruption of the normal lighting circuit.

The cabinet is finished in flexible baked enamel and has a hinged front in which is mounted a glass panel. It is separated into two compartments by a removable partition; the upper compartment contains a relay-operated switch controlling the battery-actuated light circuit. This switch is held open at all times when the normal light circuit is connected to the relay; any interruption of regular current closes the battery switch, and the unit lights instantly. The lower compartment contains a 6-volt lantern battery connected to a manually-operated switch in series with the battery switch on the relay assembly, in addition to the lamp bulb and reflector which are mounted on a ball-joined base to permit a wide variation in the direction of the light beam.

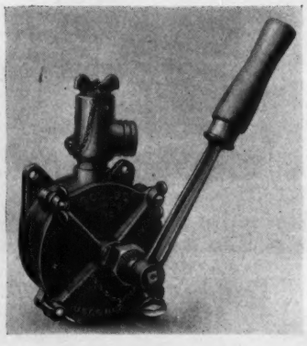
This device is stated to furnish over 12 hours of continuous light, and over 16 hours in intermittent service. Emergency Light Corporation, 140 Liberty Street, N. Y.

A NEW TYPE OF CONDENSED FUEL COOKER

▶ Heatabs, a new type of condensed heat, may well be the solution for the skipper of a small knockabout who wants an occasional hot dish but wishes to avoid installing a real stove on board. They are solid, compact tablets, sure-lighting, and will not deteriorate with age. They come in various sizes and fit into an ingenious and compact one or two burner holder so designed that a small pot or can may be placed upon it.

Heatabs are lighted with a match; the flame starts instantly and the tablet burns completely. One of the smaller size Heatabs usually is sufficient to heat ½ lb. of solid or liquid food. For frying or boiling, or other intense or quick heating, the two burner "stove" may be used. For sustained heat, simply add another Heatab just before the flame dies out. J. W. Spencer Corp., Milwaukee, Wis.

LIFE BOAT BILGE PUMP



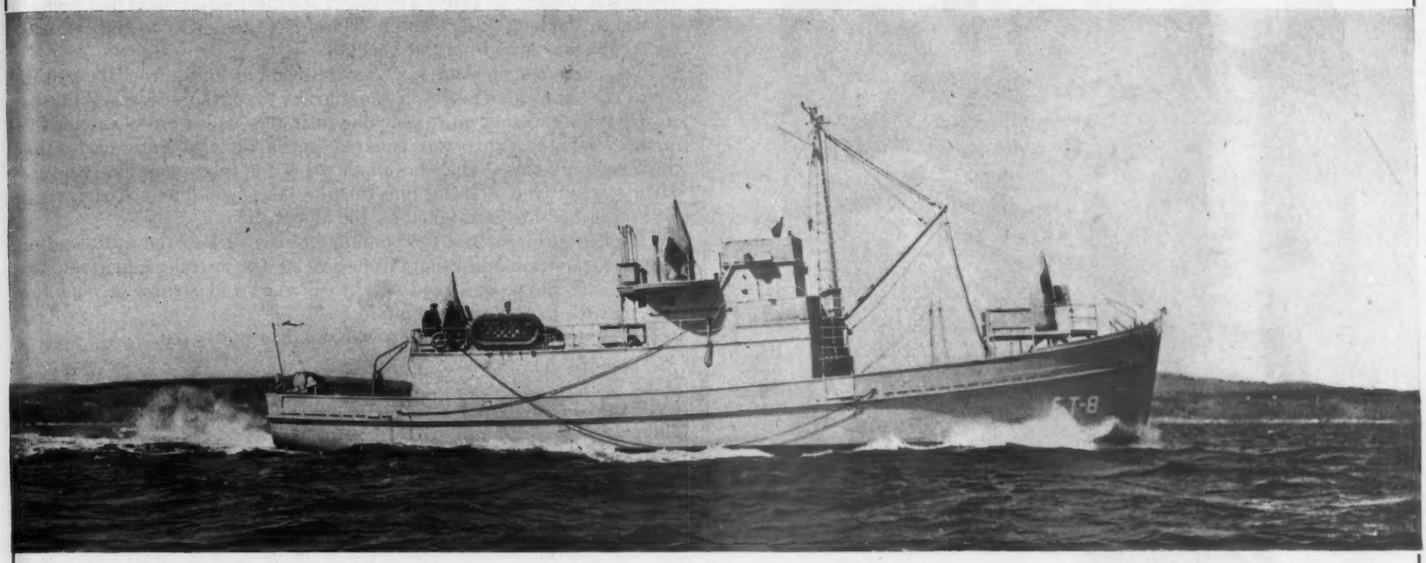
▶ Goulds Pumps has recently announced a new life boat model No. 965 which has been approved by the Merchant Marine Inspection Division of the United States Coast Guard. It provides practically foolproof bilge pumping in life boats and other small craft up to and including those of 700 cubic feet capacity.

The unit can be dismantled for ordinary inspection and repair, and reassembled quickly without wrenches or other tools. Adapted for compact bulkhead mounting, it is of all bronze construction and is therefore proof against salt water corrosion. Capacity is six gallons at 45 double strokes per minute. Goulds Pumps, Inc., Seneca Falls, N. Y.

MASTER STREAMLINE TAPES

▶ It invariably happens that the official club measurer is the only person in the fleet who has a tape measure, yet is it not agreed that one should be aboard every well found ship? Master Rule tapes come in various types and styles, and the one which seems ideal for the yachtsman is the "Briteblade" model, which has a white enamel finished tape which is both moistureproof and acidproof. Master Rule Manufacturing Co., 815 East 136th St., New York.

A Camden-built fleet of these APc's is now delivered and in service



CAMDEN SHIPBUILDING & MARINE RAILWAY CO.

CAMDEN, MAINE

"Member of Maine Boat Builders and Repairers Association"

THE VOYAGE OF THE "TONQUIN"

(Continued from page 37)

more heavily armed than the *Tonquin* with her quaker guns. All hands were summoned on deck and the drum beat to quarters. The show of fight evidently was enough. About ten o'clock in the morning, the brig altered her course and was soon out of sight.

They crossed the Line on October 22nd in longitude 25° 9′ W. Captain Thorn had grown extremely irritable, and now nothing went to suit him. He had objected to the arrogance of McDougall, but the sociability and good humor of David Stuart were beginning to annoy him even more. Stuart had been a fisherman in Labrador before he entered the fur trade and was thoroughly accustomed to the cameraderie of the *voyageurs*. He liked nothing better than to sit on deck with his pipe and gather a group of them around him, passing the pipe from hand to hand in camping fashion, telling yarns and singing boating songs by the hour.

The sight of this familiarity between master and man was too much for Thorn's quarterdeck dignity. In other ways, too, it began to appear that Captain Thorn, good seaman though he was, had goaded himself beyond the reach of reason.

About the 1st of November they began to see large numbers of aquatic birds. Also a few more sails were sighted, though nothing close enough to speak, except a Portuguese brig. They lost the trade winds and the weather turned cold and rainy. On November 11th, a day of calm with a heavy swell, they saw several large turtles. Thorn sent a boat out and captured two of them.

During the night of November 11th, off the estuary of the Rio de la Plata, the wind came up with a blast out of the northeast, lightning seemed to set the surface of the sea afire, and rain driven by a gale of wind lashed down on the *Tonquin's* decks. The ship, under short sail, ran directly before it. Under closed hatches, the young men in the steerage spent three miserably dark days and soaking nights. The heat of the tropics had opened the deck seams and every sea that broke over the ship poured down streams of water upon their hammocks.

The gale continued until the 14th when the wind hauled around to the SSW. The ship labored against head seas, her forward part plunging half under water. But Captain Thorn refused to heave to, continuing to drive her to windward.

After passing the Tropic of Capricorn, the daily water allowance had been steadily reduced. Now it amounted to about three gills a day for watering down their salt fare. They distilled enough sea water for galley use but lacked fuel to keep the still operating for more than that. Captain Thorn decided to put in at the Falkland Islands. They battled contrary winds from November 27th until December 3rd. On that evening the cry of "Land! Land!" was raised from the masthead. The ship lay to until morning when they found a good anchorage in the Sound. After more than three months at sea, Franchere (as he records in his journal) was astonished at his own pleasure in the sight of such bare and bristling rocks as the Falklands seemed to be.

The mate went ashore, with Duncan McDougall and Alexander McKay, to look for water. They returned in the evening, having found no water, but brought back a number of wild geese and two seals. Captain Thorn was angry at the lateness of their return and at "all the wild goose chasing," part of which he had watched fretfully through his glass.

As the weather seemed threatening, he weighed anchor and put out to sea. There was a strong offshore wind and in the morning they had lost sight of the island. The wind held offshore and it was necessary to beat up all that day, lying to again for the night. The morning of December 6th brought a clear sky and a fresh breeze. They found a good anchorage off the West Falkland, at a place called Port Egmont which afforded a fine spring of fresh water.

Everyone, except Captain Thorn, was in a holiday mood. The partners, stimulated by the sight of fresh water and wild geese, got out their guns and erected a tent near the spring. The cooper was sent ashore with the water casks, and the blacksmiths settled down for three or four days of repair work ashore. The rest of the company turned to hunting and exploring. They found wild geese and ducks plentiful, also seals and penguins. The latter gave even Gabriel Franchere pause. He reluctantly concluded that "the flesh of the penguin is black and leathery, with a strong fishy taste, and one must be very hungry to make up one's mind to eat it."

There was no trace of habitation on the treeless island except the skeleton of an old fishing cabin constructed of whalebone, and some discarded sealskin moccasins. Although the French and English had each attempted at different times to form permanent establishments there, no evidence of these now remained. The islands were rarely visited except by occasional whaling ships.

The young clerks found two graves marked by wooden headboards,

"GLAD THE ENGINEERS ARE SPECIFYING HARPER BOLTS

"Harper Bolts don't rust. They're tough and they'll make this pump last a lot longer."

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their English inscriptions almost obliterated by time and weather. In a moment of idle sentiment, Franchere and two of his companions brought fresh pieces of board from the ship and set about carving new headboards. This pious attention to two dead men nearly cost several additional lives.

While Franchere and his companions were setting up the headboards on the morning of December 11th, three other young men from the steerage were engaged in cutting grass for the hogs. Those tireless hunters, Duncan McDougall and David Stuart, had wandered around to the south side of the island looking for game. The last of the filled water casks had been sent aboard in the long boat. Captain Thorn gave the order to embark and a signal gun was fired from the *Tonquin*.

The young men on shore saw the white puff of smoke from the gun, and heard the faint sound of the shot muffled by the offshore breeze. While they stared at the ship, not quite believing their eyes, sails were loosed and filled in the wind, the yards were squared, and a ruffle of water curled up at the *Tonquin's* bows. They began shouting for their comrades who were cutting grass. One of them, remembering McDougall and Stuart, scrambled off in the direction taken by the hunters.

The offshore breeze and the pounding of the surf on the rocks had prevented McDougall and Stuart from hearing the warning gun at all. They reached the shore, burdened with their guns and strings of wild fowl, panting with haste and indignation.

The *Tonquin*, with all sail set, was standing out to sea.

\+ + +

THE six young men and the two dignified Astor partners piled into the 20-foot boat and, for once without bothering about distinctions of age and rank, seized the oars and fell to rowing.

They pulled hard for about an hour without appreciably narrowing the gap which separated them from the *Tonquin*. Soaked with sweat and with palms beginning to blister, they rowed for another hour. If anything, the gap was growing slowly wider. The true state of affairs could not be ignored any longer. It was impossible that they had not been sighted from the deck of the ship.

Captain Thorn was deliberately abandoning them.

There was no use discussing what they all knew, that being marooned on the barren Falklands amounted to a lingering death sentence. With fury in their hearts they set aching muscles and seared lungs to yet another hour's rowing. They were losing sight of the islands and the *Tonquin* was no nearer. There was no compass in the boat and they were in danger of losing themselves at sea.

They had stopped rowing and begun to debate what to do when the *Tonquin* was seen to come about. About three o'clock in the afternoon, after three and a half hour at the oars, eight exhausted and badly shaken men pulled up to the ship and were assisted over the side.

(To be continued)

DOWN WHERE THE LAKES BEGIN

(Continued from page 20)

that matter — are to be found small man-made coves along the shore, at intervals of two and three miles, known as "safe harbors." They are indicated both on the chart and by large signs mounted on the shore adjacent to their entrance. These artificial inlets, as their names imply, were constructed to provide accessible havens for small boats during the sudden squalls which are apt to swoop down during the summer months.

Before the war, outboard racing had become a major attraction on Lake Chickamauga and elsewhere, and it was not unusual to have thousands of spectators come from two and three hundred miles away for a one-day meet at a river town whose normal population ran into a few hundreds.

ALTHOUGH the exigencies of time confine most local yachtsmen to activities on nearby waters, an increasing number have taken to cruising the entire length of the river, and not a few have proceeded on down to Memphis and New Orleans. The reports of those who have made this colorful voyage were enthusiastic beyond belief, and it's a safe bet that in the years to come pleasure boats will constitute an important percentage of both up and down river traffic. This brings up the one major problem for which a solution has not yet been found: namely, the lack of marinas or public docks along the entire length of the waterway. At the present time, there are long reaches of the river where neither gas, water nor provisions can be obtained, and this makes for cruising complications on long passages. The post-war plan of the authorities is to establish completely equipped marinas at convenient intervals; meanwhile, the cruising yachtsman must develop the technique of cultivating the farmer's daughter in so far as getting supplies is concerned.

Numerous cities along the waterway have leased waterfront property for the purpose of developing both private and municipally owned yacht clubs, docks and marinas. Yacht clubs have been established at Gunters-

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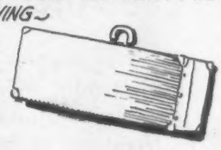
TO BE CONSTRUCTED OF FLEXIBLE PLASTIC COMPOSED OF BAKED AND MOULDED FUNDY FOG ~ THE ENTIRE BOAT FOLDS COMPACTLY INTO A CONVENIENT AND HANDY SIZE FOR CARRYING ~ CASE FOR SAME ILLUSTRATED →



PLEASE SEND THE PRIZE WINNING $500.00 TO DARRELL McCLURE

and here's a peek at Darrell McClure's "entry"

Well folks, it's all over except for the judging . . . and what a job that's going to be. More than 600 contestants . . . designs and ideas galore . . . most of them good . . . some excellent . . . and a handful that are almost as "radical" as Darrell McClure's pipe dream above. But the Judges are already at work and winners will be announced just as soon as it is humanly possible to inspect and carefully consider each entry.

A quick review of the ideas, suggestions and comments received from contestants is interesting indeed. The influence of war-born developments, designs and operational needs is evident. Witness the "flat top" trend above which Darrell McClure puts to peaceful purpose. Another contestant wants a cruising speed of 45 with a "top" of 60 knots—undoubtedly a "PT" fan, or just an impetuous person whose favorite anchorage is a long way off.

But by and large, yachtsmen still seem a pretty sensible bunch. *Seaworthiness* ranks an easy "first" among the features desired in a cruiser—*streamlined design*, a poor last. Yachtsmen want the benefit of new materials and methods, particularly those that hint at greater economies in maintenance and operation. Most of them want more paint and less varnish. The majority are concerned about good appearance but they still want a boat to look like a boat.

Practically everybody who had anything to say is of the opinion that scientifically-sound design, quality workmanship and reputation of the builder will continue as essentials of the post-war cruiser. And at this writing these qualities are perhaps the only ingredients which we care to identify as a part of Richardson's "Cruiser of Tomorrow".

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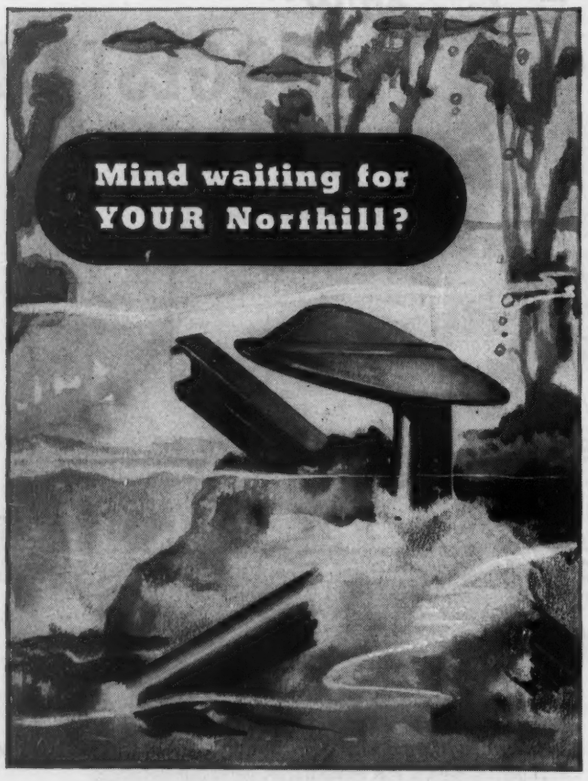

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ville, Decatur and Florence, Alabama, for some years, and the popularity of such clubs is becoming increasingly contagious throughout the valley.

Although the main channel is plainly marked, detailed charts which show the characteristics of landing areas, "safe harbors" and the smaller tributaries do much to simplify river piloting. Normally issued by both the TVA and the District Engineers, these charts are now on the restricted list for the duration, but there has been little inconvenience by this ruling as they are not essential unless one is handling a vessel of considerable size.

It is not an unnatural assumption on the part of most salt water sailors to believe that special, shallow draft boats are essential for river operation. The fact remains, however, that a substantial majority of the craft to be found on the Tennessee are of standard design and construction. Although many of the rowboats and runabouts are of local origin, the greater proportion of cruisers, auxiliaries and small sail boats has been shipped in from builders located in middle western and eastern states. Many of the more adventurous skippers have taken possession of their boats on the Great Lakes and have brought them down *via* the Lakes, the Illinois, the Mississippi and the Ohio rivers. In nearly every instance, their "delivery cruise" has proven the high spot of their nautical career, and has proven so eventful that they are now counting the days until they can voyage even farther afield. It simply goes to prove that Great Lakes yachtsmen who have tossed aside any idea of cruising down river to the Gulf because of the time involved have missed a bet by not going to the "Great Lakes of the South" instead. It should go on the "must" list of every inland yachtsman.

Although there are no local builders of sizable pleasure craft in the area, there are countless small boat yards, marine hardware dealers and garages which can handle anything but the most complicated repairs or replacements. As time goes by, and local fleets increase, such facilities will increase in scope; it's a safe prophecy that before long some enterprising builder is going to establish a sub-yard or distributing point at a location such as Chattanooga. Here and now it must be noted that one of the best small boat builders in the area is a successful manufacturer of coffins, which can only make one murmur something about "from the mooring to the grave."

No mention can be made of Tennessee River yachting without a word of praise for the Power Squadrons and the Coast Guard Auxiliary. There is not a principal river port which does not have one or more Flotillas, and the familiar blue C.G.R. pennant is to be found on some type of pleasure boat at every dam, bridge and restricted area. Even landlocked bodies such as Lake Norris boast a Flotilla, while Knoxville maintains one of the first ones to be established in the Mississippi Valley. One of the finest features of this entire program, from a recreational point of view, is that many C.G.A. members are taking to the water for perhaps the first time — and loving it. This same spirit of coöperation is reflected by numerous civic and municipal bodies throughout the area which have combined their efforts to create not only one of the finest waterways in the nation but to maintain it in war as well as in peace.

For a yachtsman to see this vast marine playland for the first time is an exciting experience. To see so vast a boating area, where few or no pleasure boats had been before, and to visualize what it will be ten years hence, is to create an irresistible urge to take a busman's holiday and cruise aimlessly from one end of it to the other. We suggest that you go and see for yourself!

INTRODUCTION TO A "DE"

(Continued from page 26)

was attacked by a surface raider. Speed is distinctly increased. This extra speed, though seldom necessary for her type of duty, might make a world of difference when it was needed.

It seems, then, that the larger DE is a definite improvement and she will eventually outnumber the smaller one.

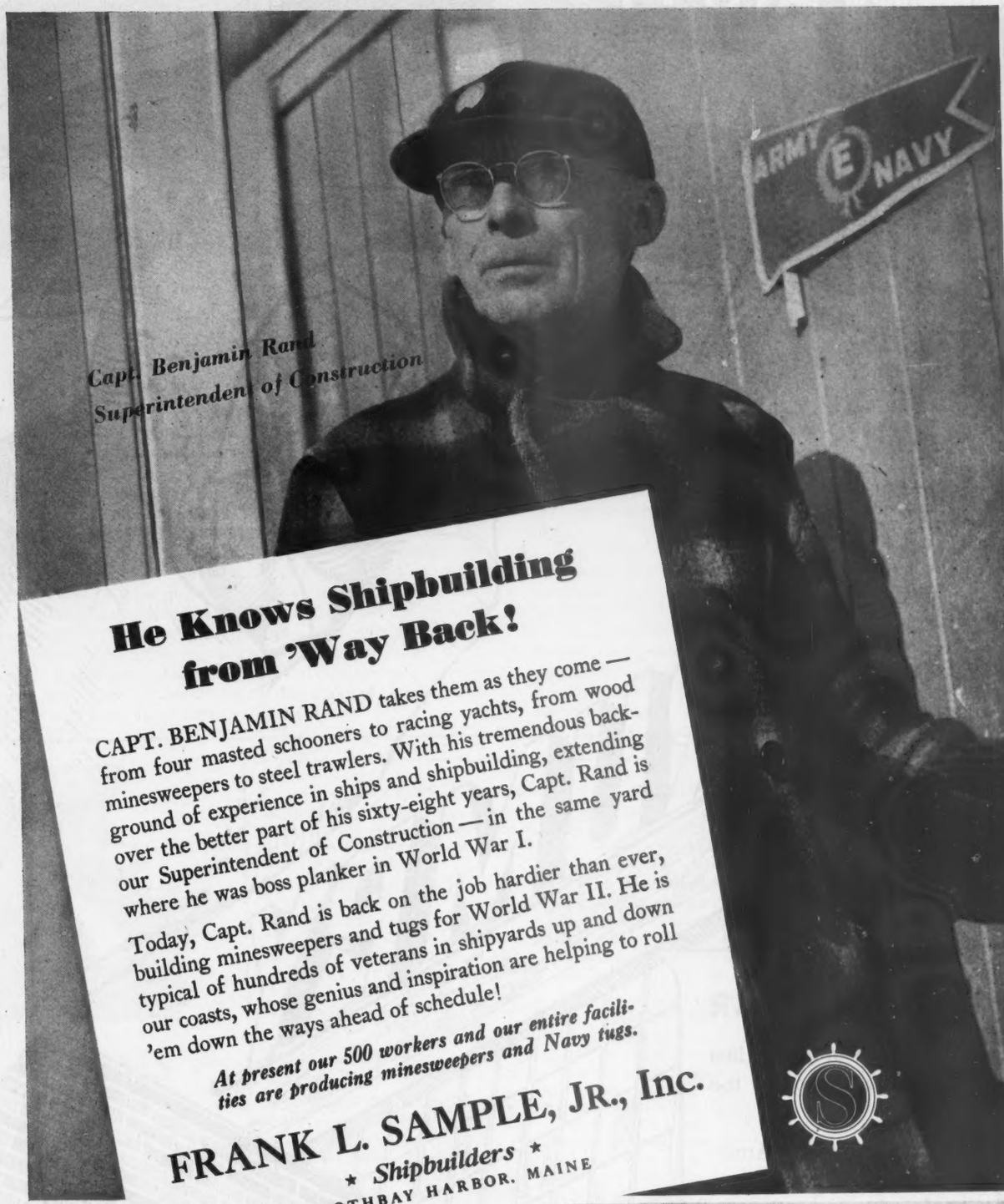
In summarizing both types, there is every reason for confidence. They were built with the specific purpose of escorting convoys and are specialized for the job. Costing much less than a destroyer, and capable of being built in half the time, they are still a better convoy escort vessel. How they would stack up with the destroyer in fleet operations or as a fast striking task force is completely beside the point. Their own job is equally important and in the performance of it they should be "tops."

Just as we were about to leave the DE we were inspecting, we passed by a Chief Boatswain's Mate with a row of hash marks half way to his elbow. If anyone was qualified to voice an opinion, he was the man. So I merely asked, "What do you think of this ship, chief?"

"Best damned ship I ever was in, sir," was the prompt reply.

That was, and is, good enough for me.

The opinions and assertions contained in the above article are the private views of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.



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Official U. S. Navy Photo

In their leisure time, Ferry Command crews read, sew or just admire the view of the brown river

FERRY COMMAND

(Continued from page 24)

spots are sure magnets for the sleeves of distracted officers busy with their own problems. The captain orders the call for shoving off at 5:00 a.m. the following morning. There is too much excitement for sleep this night.

"Throughout the inky darkness, never ending supplies snake aboard and disappear into the cavernous hold. The worried cook busies himself in the galley, cleaning it for the morning chores. There are many to feed, and the bets are 50–50 that he won't be ready for chow the following morning. The captain knows his men, though, and has a five spot which says that cook will deliver . . . and on time. For every load of supplies that comes aboard, there is a matching list presented to the busy captain by the man bringing them. 'Must have your signature, capt'n,' they tell him. Since it would be impossible for him to check every item, the captain fixes each deliveryman with cool, appraising eyes and snaps: 'You assure me that you know of your own knowledge that every item I'm signing for is in those packages and boxes?' They assure him and, with a sweep of his pen, he releases them, but with a feeling of doubt and frustration.

"Those few members of the crew who nap are awakened by the blast from the ship's horn, indicating the craft's impatience to start her voyage. It is 4:30 a.m. and all hands must be prepared for shoving off. It will be many days before the ship docks again and the captain urges the workers who have remained aboard to leave — but they are loath to quit the ship they have built. There is always one more bolt to tighten or, maybe, a hatch to batten down, or a meter to check, or a fuel gauge to test once more. Finally the captain announces brusquely: 'We're shoving off,' and gives the order to cast off the lines. There is a scurry of feet as the remaining workers dash for the gangway . . . the ship's lights blink out and the first finger of dawn arches over the horizon. It is 0555.

"A cheer goes up from the workers on the dock as LST — sighs heavily and moves gracefully away. She turns once, unbelievably sharp, then heads for the Gulf, leaving behind a jungle of cranes, booms, smoke, lights, rusty hulls, trucks and moving figures. At each powerful beat of her Diesel engines, these objects on shore shrink in size. It is only now that we really begin to explore the ship.

"Our tour of inspection takes us to the bridge where a Chief Warrant Officer presides, a veteran of 40 years service as a river boat pilot. LST — is in good hands. Eyes searching the channel, he issues instructions to a Quartermaster 2cl who holds the wheel. 'A little to the right, just a little more . . . that's fine. Now, steady as you go, steady as you go.' At seven, as promptly as if the ship had been in service a month, the bell for breakfast rings. The captain wins! Cook is shipshape, with grapefruit, cereal, scrambled eggs, bacon, toast and coffee, all faultlessly prepared.

"The boatswain's whistle announces that it is 0800, and call goes out: 'All hands fall in for muster.' It is the first muster, colors are made on the quarterdeck and the junior lieutenant calls the crew together for a talk. No oratory here; in fact, it is difficult to hear him more than a dozen feet away.

"Topside is Lt. Robert Hale, USNR, captain of the ship and commanding officer of the Ferry Crew. He's explaining the ship to Lt. (jg) Salt, of the combat crew, who will take over as captain when she arrives at the Gulf. Down in the hold, the men are busily unpacking crates and boxes. The Gunner's Mate and his crew stand fascinated as they examine those boxes marked 'Ordnance.' The supply officer and his men find the books assigned the ship, 60 in all. They range from *Red Clark Rides Again* to the *Four Horsemen of the Apocalypse*. Medical supplies, soap, cooking utensils, binoculars, dishes, radio equipment, axes, tool boxes, bedding, files, spare

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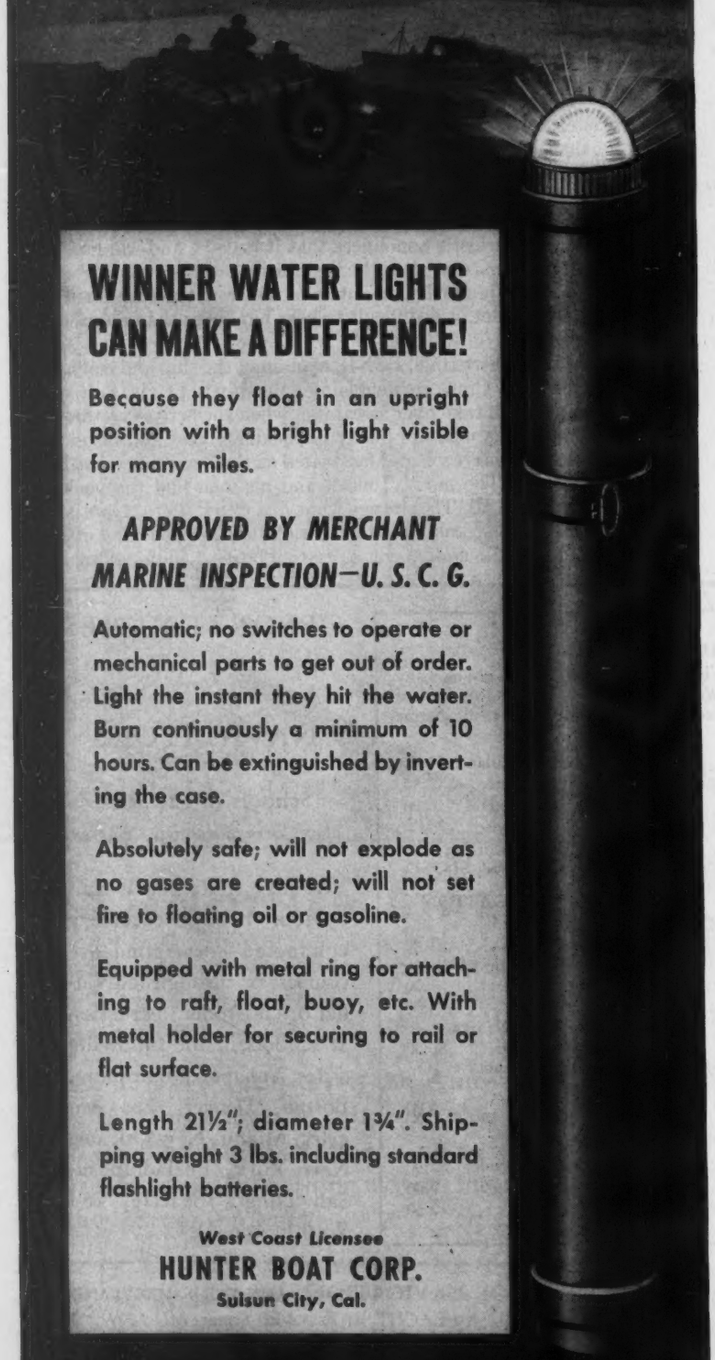

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The opinions and assertions contained in the above article are the private views of the writer and are not to be construed as official or reflecting the views of the Navy Department or of the naval service at large.

THE BUBBLE SEXTANT FOR SHIP USE

(Continued from page 33)

separate sights are recorded as pencil marks. The middle mark is taken as the median (or average) of the series. The vernier is graduated to 2′, and 1′ readings can be made with it. The instrument is simple and rugged in construction. An attachment is supplied permitting the sea horizon to be used as with a marine sextant, though without magnification, and with the right side of the image appearing on the left.

Test of Link Averaging Bubble Sextant: On October 7th and 8th, 1942, with the full coöperation of the Armed Guard officer, Lt. (j.g.) Wm. R. Herzog, U.S.N.R., and of the captain and mates of the *Pan New York*, careful tests for accuracy of the Link Averaging Bubble Sextant were made with the results shown here. Four series of ten observations each were made with ship steady, and with single shots for the first series; 5 shots for the second; 9 shots for the third; and 19 shots for the fourth. The same test was repeated on October 8th, at which time the wind was force 5, E N E, with the ship rolling about 5°.

To get a positive check on the accuracy, each observation of the first series, the third observation of the second; the fifth of the third; and the tenth of the fourth were independently timed and observed by Lt. Herzog with a good marine sextant, in adjustment. As might be expected, single observations made with the sea smooth were about as good as an average of several. On the other hand, with ship rolling, errors from single shots were excessive and an average of a large number of shots was needed to produce satisfactory results. A comparison is given below of the results obtained with the ship steady and with the ship rolling.

	ERRORS — SHIP STEADY			ERRORS — SHIP ROLLING		
	Max.	Ave.	Mean	Max.	Ave.	Mean
Single shots.....	11.′0	2.′95	+ .′75	22.′5	9.′5	+5.′9
Five shots averaged.....	12.′0 (7.′0)	4.′0	+3.′7	39.′5	22.′2	−4.′5
Nine shots averaged.....	8.′0	4.′1	+4.′0	18.′5	9.′5	− .′85
Nineteen shots averaged.....	6.′5	3.′6	+3.′6	19.′5	8.′3	+2.′5

Another series of observations, under good conditions, were taken on the U.S.S. *Wyoming* in the English Channel in 1936 by the writer, and checked

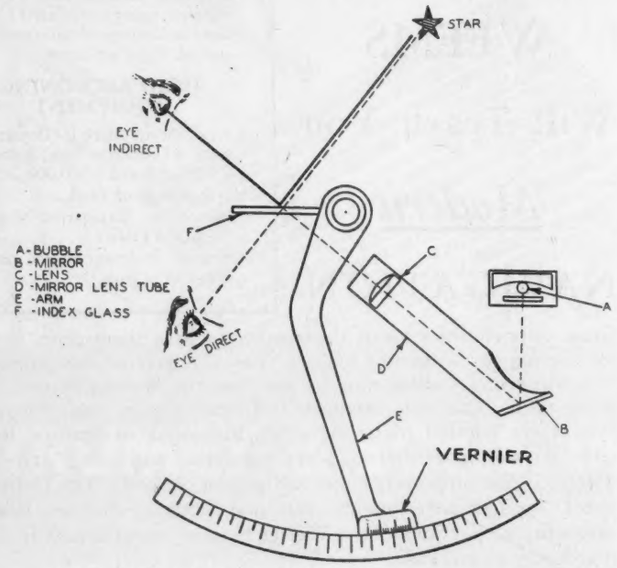


FIG 3 LINK SEXTANT OPTICAL SYSTEM

against a marine sextant operated by the ship's navigator as shown in Figure 4. A third accuracy test by Chief Officer Allen, of the S.S. *Cepolis*, using a Hughes Gothic Sextant, is shown on page 33. The "average errors" are found by dividing the sum of the individual errors by the number of shots. The "mean error" is the algebraic mean found by combining the plus and minus errors and then dividing by the number of shots.

I am told that on one North Atlantic convoy, there were seven days of fog and overcast but that, at short intervals during the seven days, bubble sextant observations could have been made. This clearly illustrates the urgent need for the new type averaging bubble sextants which were developed for use in the air, but which are equally applicable to marine navigation.

Series	*Average* +
1	1.3
2	1.5
3	12.0
4	0
5	1.5
6	2.3
7	6.4
8	.3
9	4.4
10	5.6
11	7.7
Average mean error	.15
Average arith. error	3.9

Fig. 4

POINTLESS WORK IN THE GALLEY

(Continued from page 32)

food store. Spaghetti with tomato and cheese sauce, stewed or baked fruit can also be bought at such stores while at most drugstore fountains a container of coffee can be picked up. This may solve the coffee problem for those who do not object to drinking a reheated brew; personally, if I can't get fresh coffee, I'll settle for tea, good and strong, made in the proportion of one teaspoonful for each cup and steeped in freshly boiled water for seven minutes. Incidentally, even if your coffee ration is ample, it is a mistake to leave ground coffee on board from one week to another since it loses its aroma and acquires a stale flavor. For week-end, or day cruising, the better way is to make a rough guess as to how much coffee will be needed and to take only that much.

To preserve, and conserve, your butter supply, carry it in a jar. If packed merely in paper, butter may be squashed, or on a hot day may liquify before it reaches the ship. However, by carrying it in a jar, you can prevent the first calamity, and by packing ice around the butter in the jar it can be kept adequately hard even on the dog days.

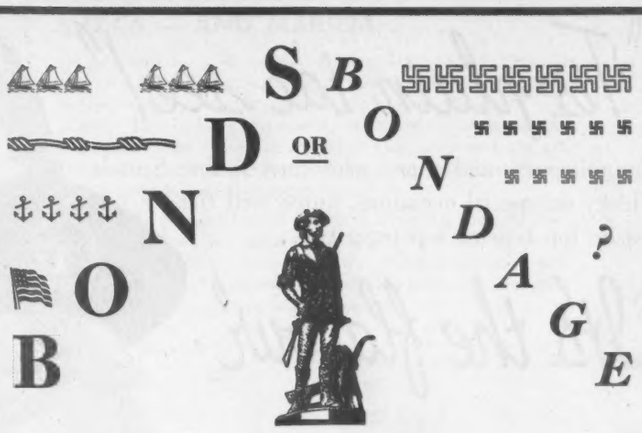
Back in the pre-war days it always seemed to me a good plan for week-end cruising to prepare as much food as possible at home because doing this saves time and effort in the galley. Furthermore, many foods, such as soups, stews and sauces, taste better after they have been allowed to blend and mellow. Of course, there are cooks who believe otherwise, and for them the current difficulty of obtaining kerosene or alcohol for the galley stove is perhaps a more persuasive reason for doing the big time cooking at home. For instance, making soup in the galley is not an economical project, but a homemade fresh vegetable soup which simply requires reheating is perfect for the short cruise. And, if you put the hook down near a beach where the clams are plentiful, dig in and, having duly washed and polished the shells, steam the bivalves and add them and their juice to the soup. The result is a clam chowder which is a meal — and a good one — in itself.

Even though there is a crackerjack fisherman in the crew who guarantees to produce the wherewithal for dinner, no cook, who is sufficiently imaginative to ply his trade, relies on a fisherman's promise. The problem, then, is how to provide a quick substitute for the fish that refuse to bite and yet not to have surplus, perishable food on hand. A good solution is a homemade sauce made of fresh tomatoes, green pepper, onions and celery. If the fish take the hook, the sauce can be served as a vegetable accompaniment, or the fish can be poached in the sauce, thus becoming fish, Spanish style.

But if the fish are taking a day off, the cook who has a quart, or so, of tomato sauce can really go to work. An obvious use for the sauce is in combination with spaghetti, or rice. Another, is as the filling for an omelet. Still another trick is to make the omelet inside out in this fashion! —

Heat the sauce and, when it is boiling, break the eggs into the pot, using about four eggs for each pint of sauce. If you want to use five, go to it. Once the eggs are in the sauce, stir the mixture vigorously and, when the eggs are cooked and the mixture has thickened, serve it immediately on bread, toast, rice, or spaghetti.

The sauce itself can be made on the galley stove. The procedure is to cut the tomatoes into quarters (about two pounds of tomatoes is right for four hungry people), add enough water to cover the bottom of the pot and cook the tomatoes until they are soft, which will take about 10 to 15 minutes. Meanwhile, slice onions, pepper and celery into a fry pan in which there is butter or other fat. Bacon fat is fine for this as it adds flavor to the sauce. When the onions, pepper, and celery are soft, and lightly browned, and the tomatoes are cooked, combine the two, adding salt, pepper and a dash of Worcestershire sauce. That's all there is to it. It's a good sauce, and a quick one, but even quicker when made at home.



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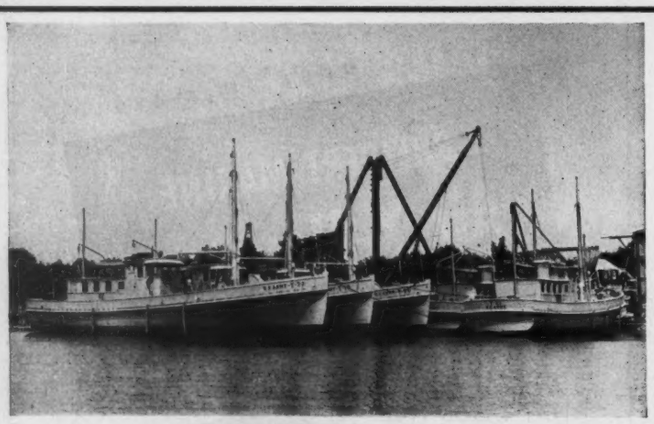

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WARTIME CRUISING

(Continued from page 43)

he was on deck early, shivering in the northerly breeze. Impatient to get under way, he hustled the girls through their morning chores, the while polishing brass with such vigor it sparkled as it hadn't all season. As we cleared the channel mouth and drew away from the shore, the August wind, freshening from the north, carried a nip which drove the Skipper to a sweater and windbreaker, although Cap, his teeth chattering and his skin covered with duck-bumps, stuck to his shorts and shivered.

By the time Penfield Light was abeam, the starboard rail was under continuously, the wind still freshening and the going dusty. A reef in the main eased things, although the lee deck remained awash a lot of the time. Mid-afternoon found the wind letting up a bit and the reef was shaken out in a vain attempt to get a close range look at the schooner *Atlantic* as she came out of New Haven with everything set.

Sachem's Head Harbor was full of boats, as usual. It is such a tiny harbor and has been so crowded every time we have been there we declare we will never come back. But there we were, and we put down the hook three times before we were satisfied with our berth. After dinner, Kit rowed us ashore — stern foremost, in spite of our comments on her ability with small boats — and we walked through the dark and silent yacht club, around the harbor and up the hill. The full moon, white as a new silver dollar and high in the cloudless sky, made of the harbor and little settlement a beautiful study in black and white. We felt more than repaid for the difficulty in finding a suitable anchorage.

The brass was all polished before breakfast Wednesday morning, thanks to Cap's energy. The wind, still out of the north, was light, so up went the genoa. By mid-morning, Falkner's Island was well abeam, and by noon we were standing off Saybrook, debating whether to start up the river or to wait for the flood tide. We really wanted to run through Plum Gut and around to Shelter Island but the Coast Guard had politely turned down our application to do so. In The Race was the destroyer patrol. We considered the possibility of ignoring the destroyer and running for the Gut until we either made it or had a shot fired across our bows, but decided that our one after battery of six-inch Coca-Cola bottles would not stand up under the assault of a boarding party if it came to a showdown. So we just looked longingly at Shelter Island, standing up boldly beyond Orient Point, slacked our sheets and headed up the Connecticut. During the morning, the wind had worked around to the southeast, was blowing fresh, and we did well bucking the ebb. Using the boathook as a whisker pole and balancing himself precariously on the rail, Cap "wung out" the genoa and up the river and through the bridges we went, carrying everything right up to the mooring at Essex.

In spite of the pregnant odors of cooking drifting up from the galley, indicating a meal in the offing, the mooring was dropped and we ran up river to Hamburg Cove. It was Cap and Kit's first visit and we wished that the first trip of every visitor to this peaceful, secluded anchorage could be on a soft night such as this, with the full moon, big and golden, coming up over the surrounding hills to make the Cove a veritable fairyland.

Thursday morning there was a thin layer of mist lying on the warm brown waters when the Skipper roused Cap, pushed him up on deck and shoved a mop and chamois at him. To the west, across the river, a green hill stuck its head through a low-hanging cloud. On deck, the dew was heavy, a good omen, presaging fair weather. With reprovisioning in mind, we ran back to Essex and tied up to the Socony wharf.

While the girls were shopping, Cap and the Skipper spread the light sails out in the sun, overhauled various sheets and spare lines, and then went to work on the engine. The gear box was practically dry, so a gallon can of gear oil was obtained and half of it dumped in. Just then the Mate shouted "Come and get it!" and all work stopped. During the meal it was decided we would get under way as soon as possible and spend the night at Duck Island Roads, so, as the last mouthful was swallowed, we all jumped to stow the sails and lines and make things shipshape topsides.

Casting off from the wharf, we headed downstream on a slack flood tide into a light southerly breeze. The day was perfect. Overhead, a clear blue sky; below, the engine going like a top; ahead, the bow wave splashing comfortably. We were filled with a vast contentment with the world. A few minutes later, just as we were about to blow for the highway bridge, a wisp of smoke floated out of the engine room porthole. The Skipper smothered a mighty oath and practically had puppies as he sprang for the switch and cut the motor for, with the first whiff of the telltale odor, he recalled that in the haste of getting under way the gear box cover had not been replaced before the engine room hatch was closed. A glance below confirmed his worst fears. The engine room was one big gob of gear oil.

Cap ran up the staysail. Under it, we coasted back to the wharf we had left so happily a few minutes before and we put in the rest of the afternoon cleaning the engine room. The Skipper grunted and muttered under his breath, Cap and Kit took care of the multitudinous pieces of equipment, wiped clean and pushed up on deck from below, but it was the Mate who

really applied the elbow grease and cleaned up the mess. By cocktail time, everything was spick and span. As the sun came down to meet the hills in the west, tranquillity was restored, the charm that is peculiar to Essex expunged the troubles of the afternoon, and we laid plans for the morrow.

Friday morning we were under way before seven, chugging downstream through the mist with — you can bet — the gearbox cover screwed on tight. As we reached the river mouth, a little breeze came out of the southeast, bearing out Cap's earlier prediction, and by the time we had cleared the breakwater the main and genoa were up and drawing nicely. The port tack was carried across the Sound to Horton's Point and there we eased sheets and began a long reach westerly, hoping to carry it to the Housatonic River. Late in the afternoon, with the wind freshening from the southwest and the rail under as we tore along, the Skipper decided the genoa was taking too much of a beating and started forward to get it down. Too late again, Skipper! A particularly strong puff beat him to it and split the foot of the sail just as Cap started the sheet.

Anchored off the Pootatuck Yacht Club, the Housatonic seemed full of boats, large and small, some in commission, some in wet storage. We didn't need to replenish the ice box and larder but the falling barometer and lowering sky indicated that it would be wise to do so. Cap and the Skipper tumbled into the dinghy, tied up to the yacht club float, persuaded the steward — who was most courteous and obliging — to give us a lift into Stratford, and got back to *Nurmah* with the dinghy loaded to capacity.

Rain, and the stiff northeast wind that had moaned through the rigging all night, greeted us Saturday morning. The prospects were anything but bright but the necessity of being back in Larchmont Sunday caused us to leave — although unwillingly — our snug anchorage. Carefully figuring out our gasoline supply, we concluded that we could spare a little rather than tie in reefs and pull the sails out of shape in the rain. It seemed wise to run under the lee of the Connecticut shore where, if the going got too bad, we could run in for shelter. Coming out into the Sound after passing Stratford Breakwater Light, we hit a strong flood tide which combined with the northeaster to kick up a sea which towered over the stern and charged toward us as though nothing could prevent each wave from coming aboard and swamping us. At first we eyed them dubiously but, as one after the other slid harmlessly under the stern, we welcomed the increased speed obtained from the lift and the long coast down from the crests. Off Peck's Ledge bellbuoy, both wind and sea abated somewhat, we got talking about the clams in Lloyd's Harbor, put the wheel over and headed for Huntington Bay.

Rounding the sandspit into the calmer waters of Lloyd's Harbor, it was evident that the northeaster had piled up a lot of water. We picked out the best anchorage — there was only one other sail boat there — put out plenty of chain and went below to take such precautions against colds and chills as seemed advisable. Late in the afternoon the sun came out and, the tide table informing us that low water was at hand, we all piled into the dink. There was no real clamming equipment aboard but Ernest Ratsey had shown us a place where clams were abundant at low water and we were confident that with the bucket, the coal stove shovel, a garden trowel and a large marlinspike, we would get all we wanted without any trouble. Well, to a certain extent we were right. We had no trouble at all. We rowed and rowed, only to discover when we reached the spot marked "X, dig here for clams," that in spite of the tide table's prediction, what should have been an exposed sand bar was watery waste no less than five feet deep.

A noise forward, as though the bow were riding up on rocks, aroused the Skipper in the middle of the night. Cap heard it at the same time and together he and the Skipper bounced up on deck to see a large, black-hulled schooner about to bring her stern down on *Nurmah's* bowsprit. The northeaster had freshened, the schooner was dragging rapidly, and there wasn't a second to lose. Shivering in their shorts and slipping in their bare feet, Cap and the Skipper grunted and struggled to fend off the schooner as she drifted astern. As she passed *Nurmah's* quarter, her skipper got his engine started, worked her away so her anchor didn't foul ours, and dropped another hook. That must have been his good one, for she was in the same place next morning, without a scratch on either boat.

After a week's cruising, Sunday was a lazy day and a late start was made. The wind was light, for the first time in a week, and our progress slow. And, for the first time in a week, it was warm enough to swim. Cap, with the end of his leave practically staring him in the face, and thinking of the months he would be away from the salt water he loved, dove overboard and disported himself alongside like a friendly porpoise. For a while it looked as though he would stay in the water all day, and that *Nurmah* would be right there beside him, but we fially coaxed him aboard and began taking advantage of every breath of air that came along. Larchmont was reached late in the afternoon. As we approached our mooring, on which we found Ambrose Day's *Skipperess* and Boyd Brown's *Marboy*, Amby invited us to tie up and come aboard. His voice, seldom audible more than two miles to windward without a megaphone, was cordial. Our spirits had been sagging at the thought of ending such a pleasant week. We accepted with alacrity. Amby's party was a proper ending to a grand cruise.

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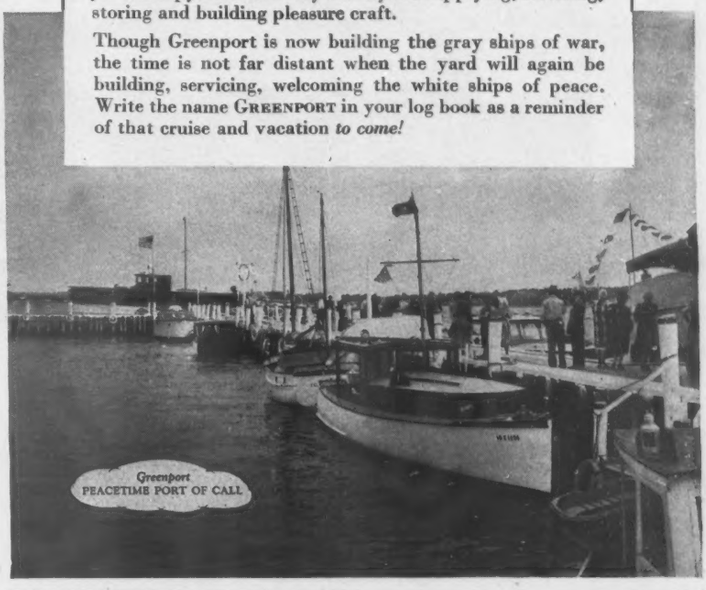

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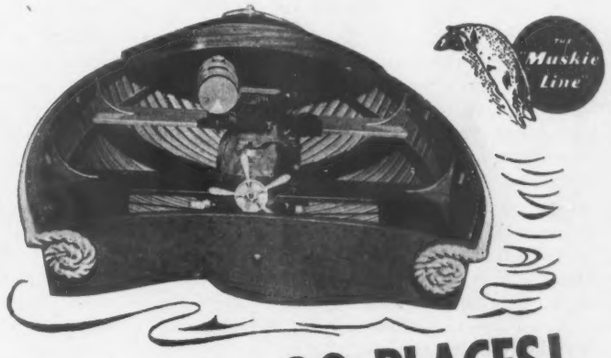

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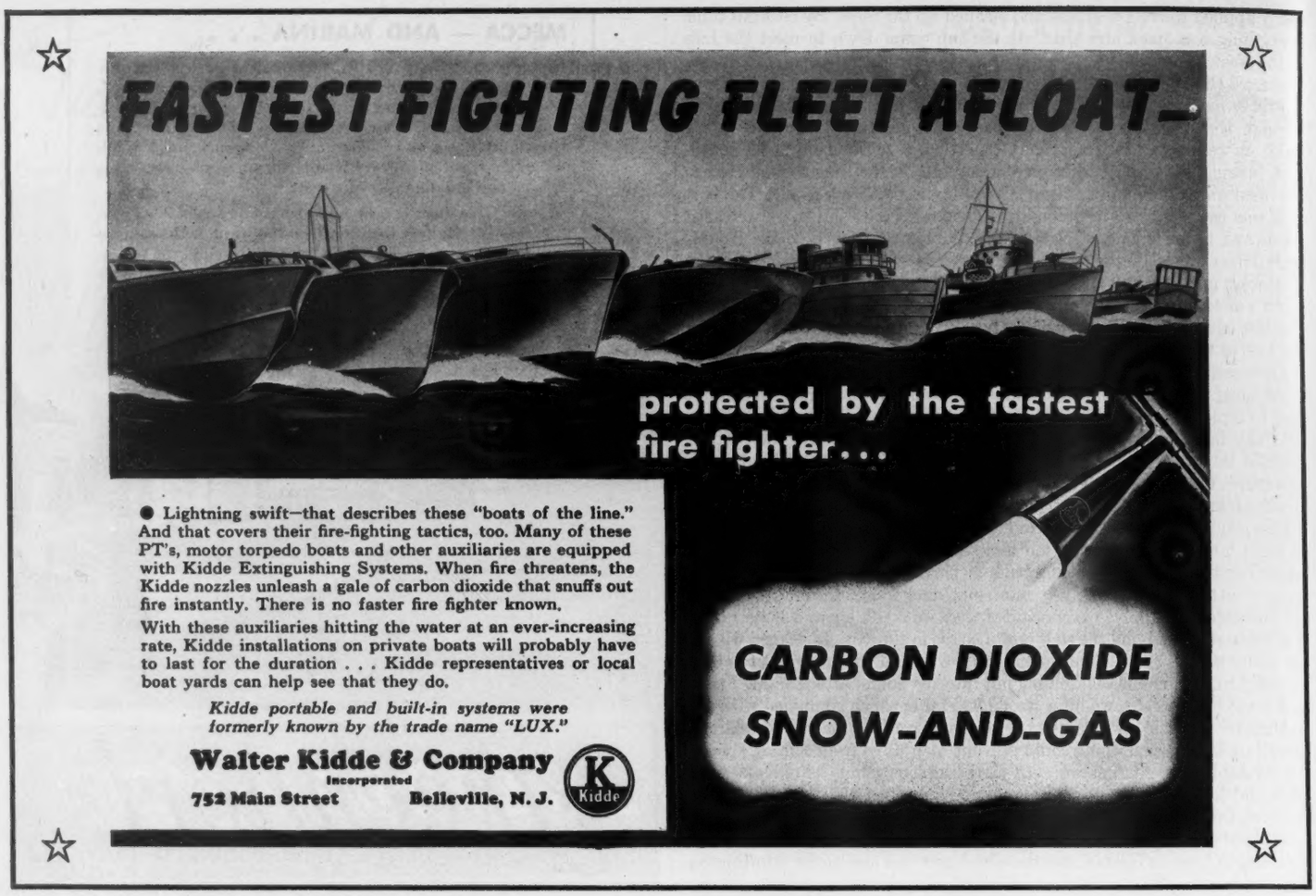
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ANCHORS AND ANCHORING

(Continued from page 31)

30°. When that happens and the anchor has not fouled a cable or some other obstruction, there is always a mixture of sticky mud or clay and mud sticking to the anchor when it is brought up. There seems to be enough suction in bottoms of that type to resist breaking out by a straight pull. I do not recollect ever having difficulty getting the anchor to break and then having it come up clean, as it will from a sand or gravel bottom.

The fact that there may be difficulty in weighing an anchor with a single straight pull does not mean that it would be safe to lie all night to a well-set anchor with only 1:1.5 scope. Every movement of the boat might shift the anchor a fraction of an inch and, in the course of two or three hours, the cumulative effective might be to free the anchor. Before turning in for the night, the scope should be such that the repeated variations in the strength and direction of pull on the anchor tend to set the anchor more firmly rather than break it out.

For permanent moorings in crowded yacht anchorages, the maximum angle of pull is most important as the scope must be as small as is consistent with safety. For overnight anchoring in a roadstead with ample room, there is no such limitation and the yachtsman is interested in knowing how far holding power of his anchor can be increased by veering cable.

Converting the holding powers and angles of pull of Coombes into terms of scope, we get the following table:

TABLE 2

Scope	*Angle of Pull*	*Holding Power*
3 × depth of water	19.5°	8.9
4 × " " "	14.5°	10.1
5 × " " "	11.5°	11.1
7 × " " "	8.2°	12.6
10 × " " "	5.7°	13.9
15 × " " "	3.8°	15.0

One well-established myth or tradition is that a 50-lb. anchor would hold the *Queen Elizabeth* if it were only given enough scope. Coombes has shown that the proponents of long scope have greatly exaggerated its importance.

By far the best method of using two anchors is to put all available cable onto one anchor and then bend the second anchor to the cable at an intermediate point. With that arrangement, the second anchor reduces the angle of pull on the first, a big advantage. In general, to get good engagement of the second anchor, the point of its connection to the cable should be about ¼ to ⅕ of the cable length from the first anchor. It is also an advantage to connect the first anchor to the crown of the second and to connect the cable to the ring of the second. In that way, the liability of the second anchor being broken out is materially reduced.

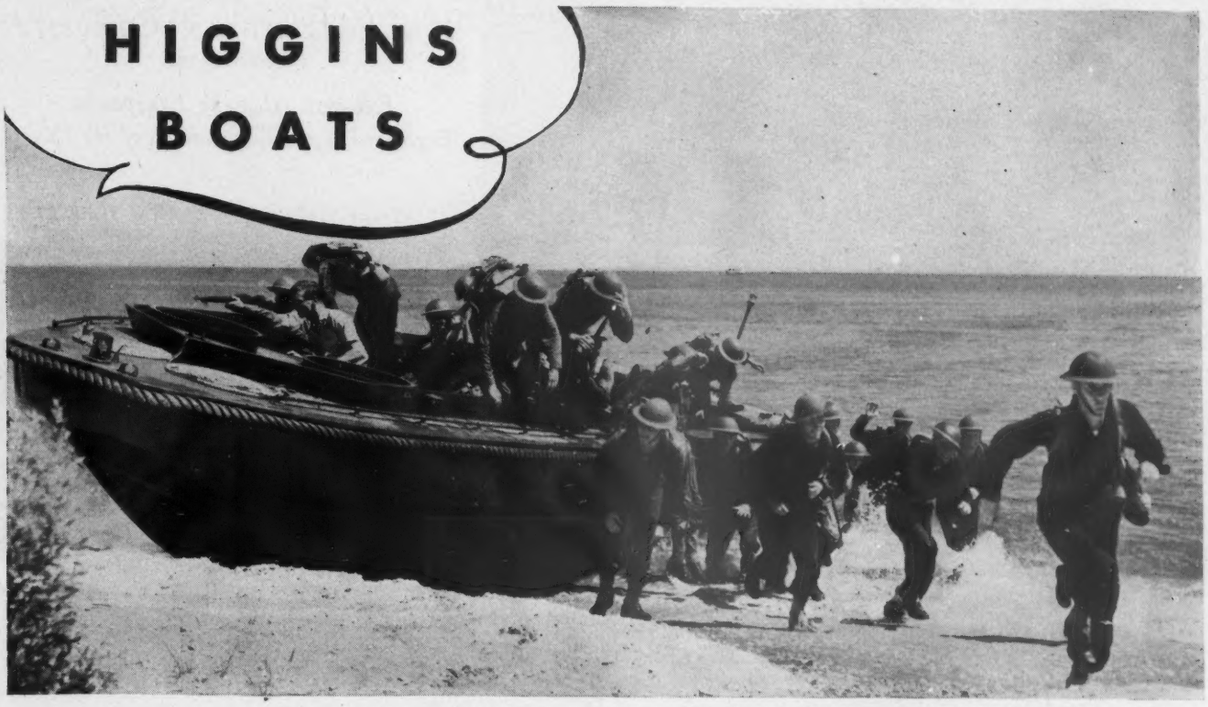
The third method of increasing the ratio of holding power to weight is to reduce the thickness of the flukes and other parts, to reduce weight without reduction in fluke area, or to increase the fluke area without increasing the total anchor weight. This is the method used by the inventors of the new light weight anchors. There seems to be no question that, in good holding ground and with the anchor properly set, the ratio of holding power to weight for these new types of anchors is considerably greater than it is for the conventional stocked anchor.

A difficulty sometimes experienced with the new light weight anchors has been to get them to take hold properly. Lack of ability to hold well in soft mud is another disadvantage, but that is also a characteristic of the old stocked and Navy type anchors. Unquestionably, the reduction in weight has an important bearing on the way in which these modern types of anchors behave, especially as regards their ability to take hold and then set themselves in the bottom.

It may clarify the situation to analyze the action of the old-fashioned stock anchor. The more I consider its design, the more I appreciate why it has been in use for over 2,000 years with only minor modifications. When a stocked anchor is let go, it falls in the position shown in Fig. 4. In that position, it will not take hold; it must first be capsized into the position shown in Fig. 5 by a pull on the anchor cable. This means either a heavy or a long stock because as the stock falls one of the flukes and adjacent parts have to be lifted off the bottom. The specifications of both Lloyd's and the American Bureau of Shipping require a stock having a weight at least ¼ of the entire weight of the anchor. As a matter of fact, when the average stocked anchor is in the position shown in Fig. 5, only about 60 per cent of the anchor weight is carried by the fluke and the remaining 40 per cent by the stock.

When the stock has capsized the anchor, the usefulness of its weight is not ended. Its weight greatly reduces the effective angle of pull on the fluke during the time the anchor is taking hold, the very time it is most needed. The mode in which the angle of pull is reduced is indicated dia-

HIGGINS BOATS



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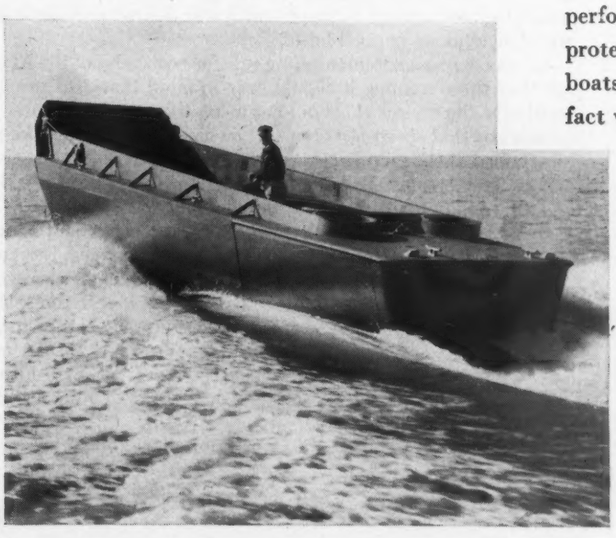

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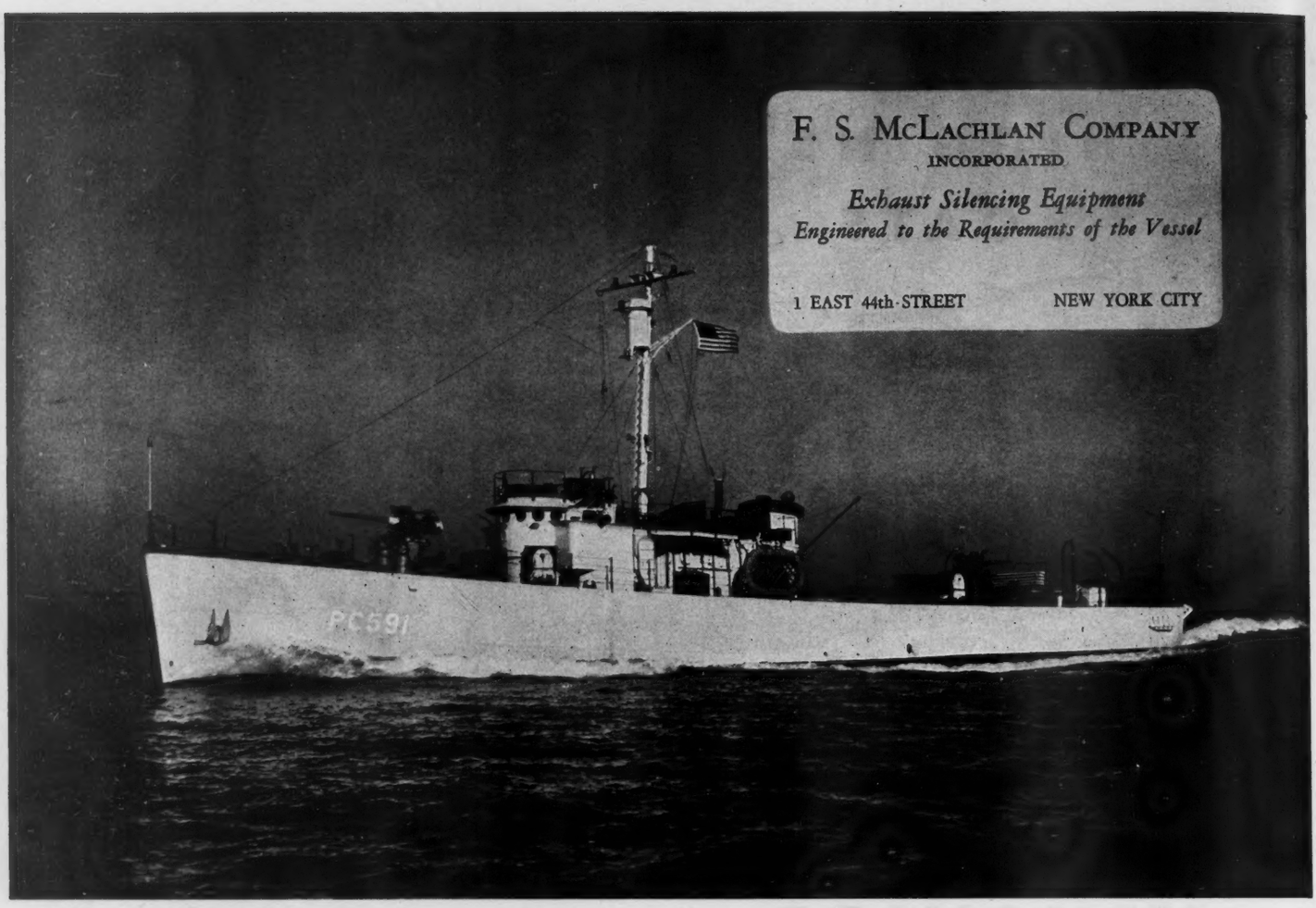


grammatically in Fig. 5. The effective pull is the resultant of the weight of the stock and adjacent parts and the pull on the anchor cable. For an actual example, I will take a 45-lb. stocked anchor of which about 27 lbs. is carried by the fluke and 18 lbs. by the stock. To lift the stock off the ground with a 3:1 scope of cable, the pull in the latter must exceed 50 lbs., corresponding to a 15 m.p.h. wind for the Casey sloop to which I have referred. Up to that point, the pull on the fluke is absolutely horizontal, that is, until the fluke begins to bury. With 5:1 scope, the figures are 90 lbs. and a 21 m.p.h. wind.

As the fluke and its arm bury, the effect of the weight of the stock decreases until it becomes zero when the line connecting the center of the fluke to the anchor ring comes into line with the cable. The important point, however, is that the weight of the stock greatly aids the anchor *taking hold*. Further, it functions in this way with much shorter scope than is necessary with the new light weight anchors.

The foregoing discussion of the effect of the weight of the stock of the old-fashioned anchor in obtaining a horizontal pull on the flukes emphasizes the desirability of using some equivalent means for producing the same result with anchors without a heavy stock.

Two other methods of obtaining a nearly horizontal pull are available: first, abnormally long scope; second, a heavy cable to give a catenary curve of which the part nearest the anchor will be substantially horizontal. The most practical thing to do is to use a combination of both methods, thereby avoiding excessive scope on the one hand, and excessive cable weight on the other. A section of reasonably heavy chain, say 15′ long, next the anchor is good practice. A manila cable, especially when first thrown overboard, contains a considerable amount of entrapped air and hence has little weight when immersed. Manila to give spring and chain to give weight make the ideal combination. After the anchor has set, the scope may be shortened up materially.

TWENTY YEARS OF YACHT DEVELOPMENT

(Continued from page 38)

measurement rule were generally satisfactory, it was thought by the Cruising Club Committee that the time had come for a measurement rule that was a bit more scientific and that would more fairly measure the three factors — length, sail area and displacement — which govern a boat's speed. It was felt that big rigs and light displacement should not be allowed to race on even terms with more normal sail area and displacement. At the same time, a formula had to be found that would fairly rate the large fleet of existing cruisers which still constituted over 90 per cent of the entries. No attempt was made to foster any particular type but it was felt that any normal, wholesome boat should be protected.

So, in 1927, the first Ocean Racing Rule of the Cruising Club was formulated and adopted. This rule took into consideration, for the purposes of rating, length, sail area, beam and depth (as an approximation of displacement) and, for the sake of uniformity, the same formula was adopted as was used by the Royal Ocean Racing Club but with some different values given to some of the factors. It was already foreseen that ocean racing would be international in scope and it was desired to have it develop here and abroad along parallel lines.

In considering a common rating rule for both sides of the Atlantic, it was felt that those framing it should bear in mind that ocean racing was primarily for the cruiser. This did not mean that such boats need necessarily be slow, or that speed *per se* should be handicapped, but speed should not be attained at the sacrifice of the essential qualities of a good cruiser, which include seaworthiness, comfort, ample stowage space for a long voyage and all 'round ability to take whatever comes.

By 1928, two ocean races were promoted on the Atlantic, and the Honolulu Race on the Pacific. In addition to the biennial Bermuda Race, a Transatlantic Race to Spain was sailed from the East Coast of the U. S. Greatly augmented fleets started in both the regular fixtures, the Bermuda and Honolulu Races. The two classes for the race to Spain brought out nine starters and the Bermuda event twenty-four, the latter being the largest number up to that time ever to race over a course of that distance.

The year saw two newcomers, the schooner *Niña*, designed to the ocean racing rule by Starling Burgess for Paul Hammond, and the yawl *Rugosa II*, by Herreshoff for Russell Grinnell, but not built to the rule. Also John Alden and W. H. Hand, Jr., had new boats, the former turning out *Malabar VIII*, *Teal* and *Tradition*, all schooners (the *Teal* having a modern jib headed rig), while Mr. Hand also went to a modern rig with the schooner *Yankee Girl*, a remarkably fine and fast 66-footer. C. D. Mower was represented with the little cutter *Duckling*, which was to prove her caliber in many subsequent races. Altogether, the ocean racing fleets were taking on a modern appearance.

Rosenfeld photo

"Jolie Brise" carried a long tiller typical of the British and French cutters

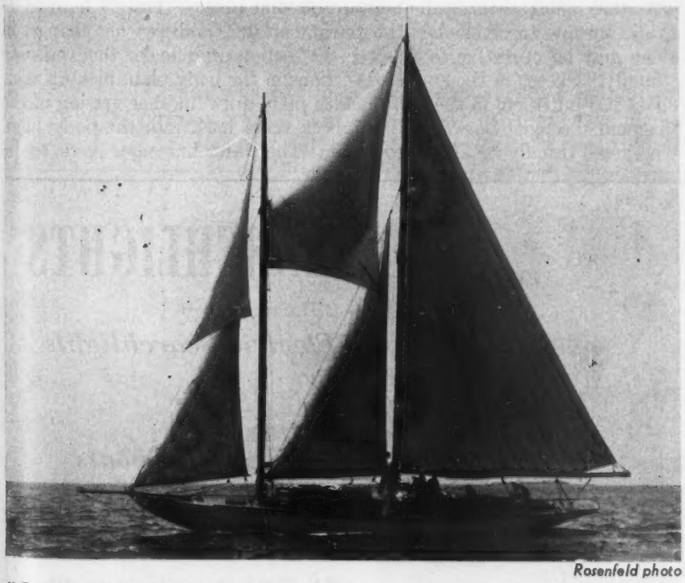
Dr. Manfred Curry's theory on overlapping sails and accelerated air flow was exemplified to the greatest extent in a starter in the race to Spain, when the 50-foot schooner *Isabella* (formerly the *Rofa*, the hull but not the rig designed by Herreshoff) came to the line with the queerest assortment of spars and sails ever seen on a yacht. "Bill" Taylor described her at the time in the following manner:

"At a distance, she looked like a Chesapeake Bay bugeye with a double head rig, but a closer view showed it was not as simple as that. From the trucks of her two raking masts, wire stays went straight down to the deck, and at the foot of each a boom was pivoted, the forward end close to the mast. Each boom carried two sails, the after one using the perpendicular wire stay as a luff rope and the forward one tacking to the forward end of the boom and lapping well past the after sail. In other words, it was a double rig of the type used by Dr. Manfred Curry in his little experimental sail area class boat."

William Roos, *Isabella's* owner, was ahead of his time, however. The yacht's rig was too modern and, some 800 miles out, both masts went overboard and the boat later sank, under tow, after her crew had been taken off by a passing steamer.

By 1928, the staysail schooner rig was making its appearance and several ocean racers were carrying upper and lower staysails between the masts instead of foresails; but the rig did not prove well adapted for strenuous ocean work and was never generally accepted. All these changes in hull and rig pointed the way, however, to what lay ahead. They were the forerunners of what the next ten years were to produce. The lessons learned in these early years of trial with new rigs and types were to bear fruit later. By 1930, the race was on, and from then to the outbreak of the present war, the development was swift and sure.

(To be continued)



Rosenfeld photo

"Cygnet," designed by Cox & Stephens, carried a novel rig. She was the first staysail schooner ever to compete in the Bermuda Race

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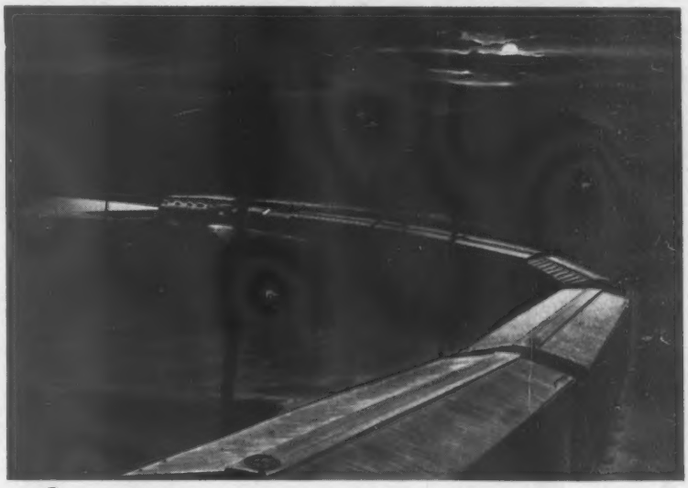

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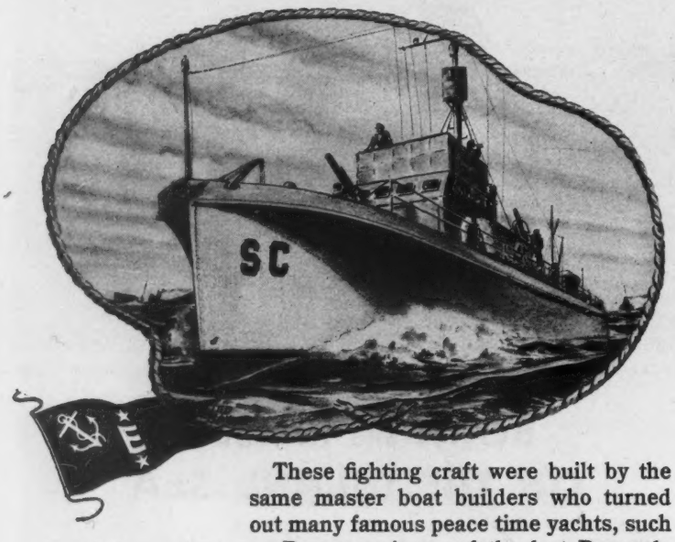

These fighting craft were built by the same master boat builders who turned out many famous peace time yachts, such as Baruna, winner of the last Bermuda race; Tioga, holder of the New London to Marblehead, all-time course record; Tioga Too, with 18 "firsts" in 24 starts in 1939. After the war, we'll build more such yachts, including racing craft of the Yankee 1-Design and Adams class.

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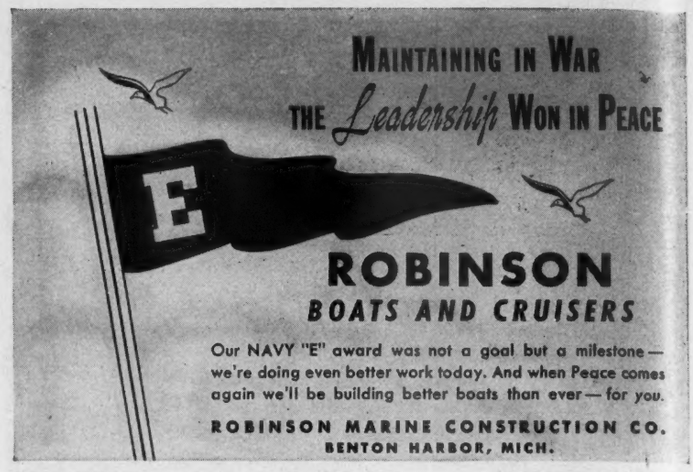
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YACHT DESIGNING FOR THE AMATEUR

(Continued from page 45)

and the depth of the keel bottom, you can sketch in the midship section, remembering that the keel must have breadth enough to allow enough lead or iron to make her stand up under sail. The weight of ballast will vary from some 30 per cent for a good sized auxiliary cruiser to as high as 75 per cent for an extremely lightly built racer. A figure of 46 per cent is not out of the way for the average cruiser. Sketch in the outline of the midship section through the spots and take out its area below the water line with the planimeter, or otherwise. (Remember to multiply by 2 for both sides.) The result will probably not be correct on the first attempt, so sketch in another, filling it out or fining it in as indicated. Adding volume near the water line will raise the CB and increase the stability but don't make the section with a lump near the water line.

When the midship section has the necessary area and is a pleasing shape, sketch in a section half way to the bow and another half way to the stern. These will, of course, show the influence of the "parent form" (the midship section), and should be smooth, sweet curves. Draw a diagonal through the bilge. This will usually be at 45° from the vertical and will start at the intersection of the center line and the load water line. "Develop" the diagonal, that is, pick up the distances from the center line, measured along the diagonal, to each station drawn and spot them in the half breadth plan below the center line. This diagonal will end, in the half breadth plan, at the ends of the load water line. Lay a batten through the spots and fair it, easing it in or out as needed to make it a sweet curve. When it is to your liking, draw the line and pick up the spots on all the stations and spot them in the body plan.

In the body plan, you now have the top of the rail, the water line, the keel bottom and these spots on the diagonal. Through them, sketch the rest of the stations and look them over. They may prove to be higgledy-piggledy, with humps and hollows all in the wrong places. They should, of course, be all of the same character, flowing from each one into its neighbor and with their quickest turns all about in the same place — but it's hard to do this at the first try. So look at the fore and aft lines and see what changes in them may be necessary to improve the sections and make them all one "family." Sketch in the amended sections in the body plan, pick up their spots and put them in the half breadth plan, draw another version of the diagonal through these spots and check them back into the body plan. There will usually be an improvement. The water line may have to be

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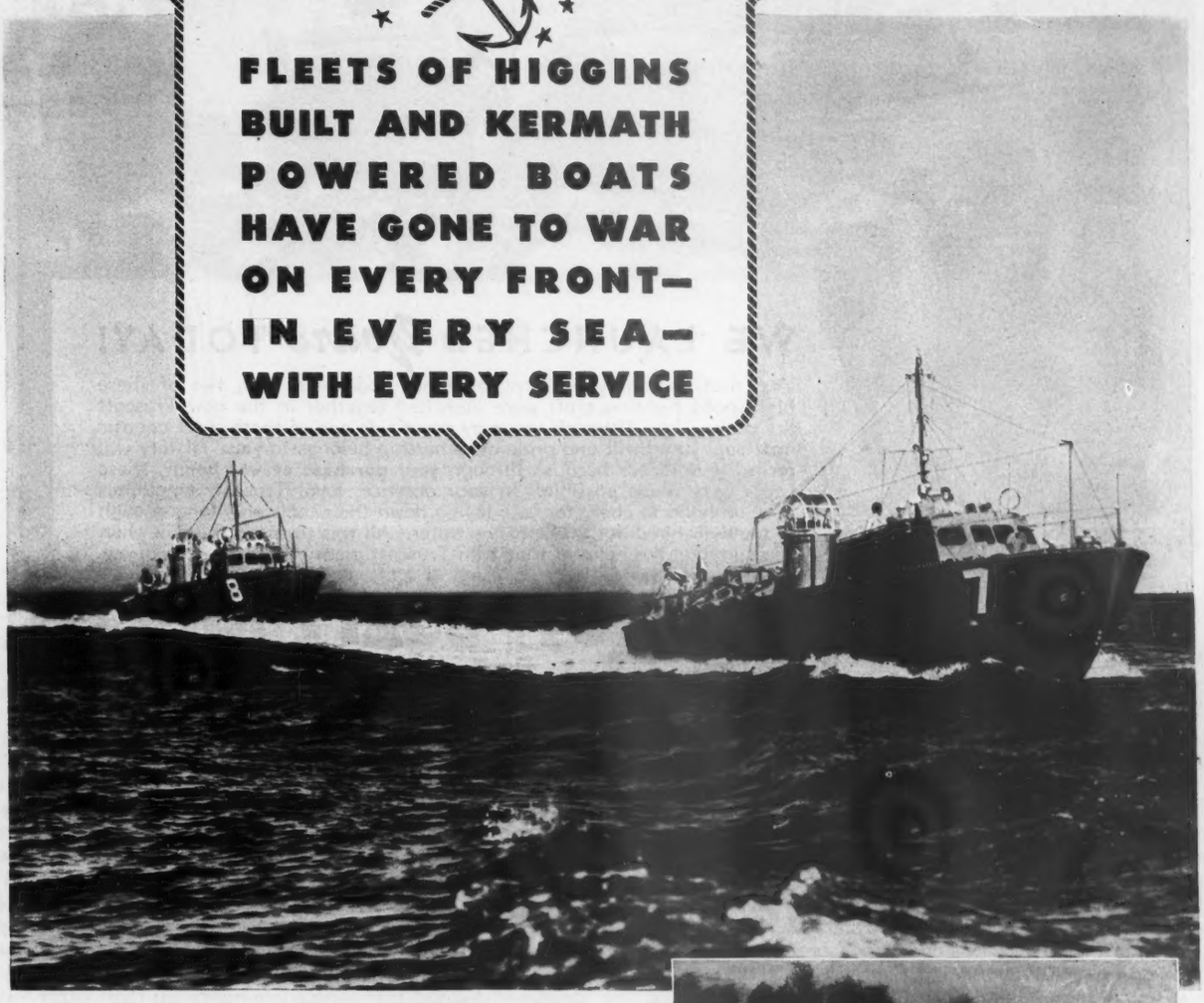

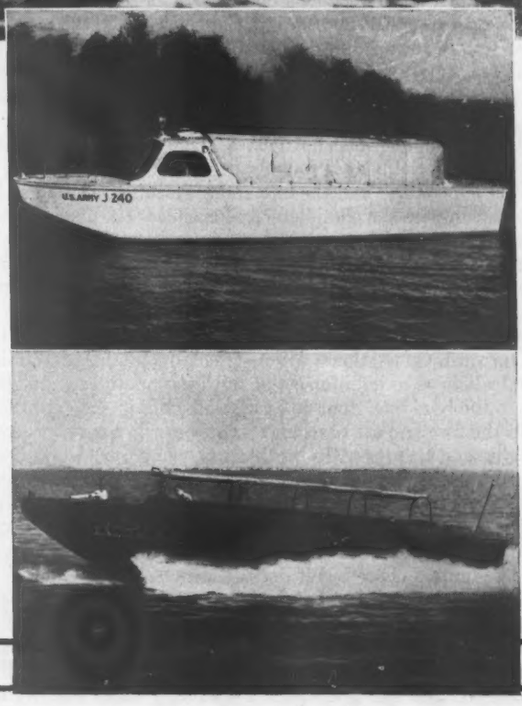

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changed, also, and perhaps you will find a hump or a flat in the deck line.

Pick up the spots on the quarter beam buttock line (the one about half way out from the center line to the widest point) and spot them in the sheer plan. You may measure up and down from the load water line or up from the base line. Where this buttock (or any buttock, for that matter) crosses a water line, the point of intersection must be the same distance from the nearest station in both sheer and half breadth plans. So, forward, square up from the intersections on the half breadth plan to the sheer plan and spot them on the appropriate water lines. Aft, the buttocks should govern so square down from the sheer plan to the half breadth plan. You'll often have to juggle the shape of the water line aft a bit. A small change in a buttock aft, which crosses the water line at a small angle, will make quite an alteration necessary in the water line.

With sheer line, water line, one buttock, a diagonal and the stations sketched in, the form of the boat is roughly determined and it is time to take out the displacement and find the fore and aft location of the CB. So run over the body plan with the planimeter and calculate the displacement and the position of the CB. They may be nearly right and they may be away off. The easiest way to see where the lines are off is to draw the curve of areas and compare it with the theoretical curve. Fig. 37 shows the two curves superposed, the one just drawn being above the theoretical one in some places and below it in others. Say that the new one is above the theoretical one forward. On Station 3, for instance, draw a horizontal line from the theoretical curve to its intersection with the new one at *a*. Then draw *a'* square to the base line. Spot *aa'*, a new section, in sheer and half breadth plans in the fore and aft position taken from the curves of areas. Pick up the heights and half breadths on this new, temporary, station *aa'* and transfer them to Station 3. Do the same at the other stations and you will get a new series of spots for rail half breadths, water lines, buttocks and diagonals, leaving sheer and profile as before. This new set of lines should have the desired displacement with the CB in its proper fore and aft location. It sounds like quite a chore but it doesn't take so long to do.

Now you can go ahead with the rest of the lines and the final fairing. This is a tedious process, since each spot in any plan must check with the corresponding spots in the other plans. The heights, half breadths and diagonals must be checked back and forth from one plan to the others until agreement is attained. The half breadth of a spot on a water line, for instance, must be the same in both half breadth and body plans; the same with the heights and diagonal half breadths. And the lines must all be fair and sweet.

Different designers use different methods in fairing the lines. In the case of a normal type of boat, whose lines have reached the stage indicated above, my own preference is to do most of the early fairing with diagonals. These are drawn in where they work the best, crossing the stations as nearly at right angles as possible. The first one is drawn from the intersection of load line and center line at 45°. There is one through the fullest part of the bilge, another through the reverse curve below the turn of the bilge, with others in between. In the ends, especially aft, where the angle of the diagonal with the sections changes materially from one station to the next, the developed diagonal may show queer curves but there either water lines or buttocks cross the stations more nearly square and are more valuable for fairing. Aft, under the counter, the buttocks are invaluable but forward the water lines are the ones to be guided by.

As for ending the fore and aft lines: the load water line and its diagonal naturally end at the ends of the water line. The buttock lines forward end on the rail at the position found by squaring up from the intersection of rail and buttock in the half breadth plan. (See Fig. 38.) Aft, it may be wise to fair out to an imaginary station abaft the transom and to work out the shape of the transom after the lines have been faired. A buttock line which clears the transom aft will end on the rail and the spot may be found as it was forward.

The water lines in the half breadth plan end at points squared down from their intersections with the profile in the sheer plan. (This assumes that the stem is faired out with the run of the planking; the ending in the half breadth plan will have a half breadth equal to that of the face of the stem. If the stem is left square, the half breadth of the ending will be the half siding of the stem.) Aft, the water lines end on the center line if they do not cross the transom. Near the forward end of the keel, the ends of the water lines will have the half siding of the keel. An early job is to draw a "ghost line" for the keel. This is the imaginary line where stations and keel intersect before the bottom of the keel is rounded off. Experience is the guide as to the necessary width of the ballast but, once the lines are faired and the weights figured, small alterations in the siding of the ballast keel may be made without affecting the lines of the boat materially.

Ending the diagonals is not quite as simple as ending the other lines since they cross the stations at an angle. They are drawn first in the body plan. To end a diagonal forward (Fig. 38), measure the height of the point *a* where the diagonal crosses the face of the stem (if the stem is not faired out with the planking, measure the height where it crosses the rabbet at *b*) and spot this height on the outline of the stem (or rabbet line) on the sheer

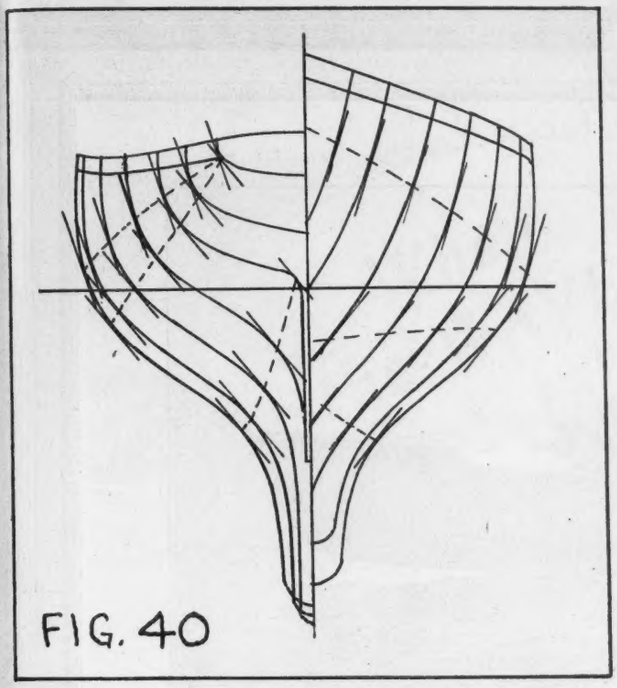


Fig. 40. A simple method of checking fairness of the body plan

plan at *a'* or *b'*. Then square down to the half breadth plan and draw a short 'thwartships line below the center line. Now go back to the body plan and measure the distance from the center line, *along the diagonal*, to the face of the stem (or the rabbet) and spot this at *a''* or *b''* on the short line just drawn in the half breadth plan. The developed diagonal will end at this point. Aft, the same procedure is followed except that the diagonal usually ends on the center line. If it crosses the station abaft the transom, measure the offset on this station and lay it off in the half breadth plan. This sounds more complicated than it really is and a trial will show how it works.

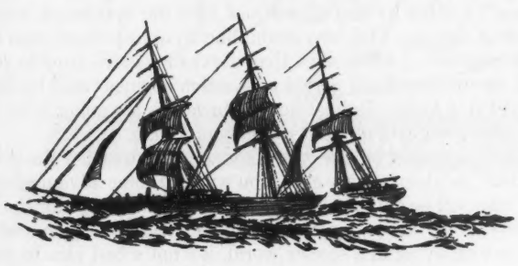
Remember that you cannot alter any spot or any line in any plan without making corresponding changes in the other plans. And do not force a batten to pass through any spot when it doesn't want to. Look the lines over and see if a change is not indicated. The boat must be a harmonious whole, with no humps or hollows anywhere. Often a slight change in the lines will improve the design. Fairing a set of lines takes patience as well as a "good eye." Look at Fig. 39 for a nice set of lines.

A test of harmony of the lines may be made when the body plan is fairly well settled. Draw a number of short lines parallel to each other and tangent to each station at the turn of the bilge. Now pick out the spots where these lines touch each station and sketch a line through them (Fig. 40). It may — or may not — be a fair curve. If not, a little alteration on a few stations will make the line which passes through the points of tangency a fair curve. The same may be done in the hollow below the turn of the bilge.

Another stunt is to project the sheer line at an angle, say 10° or 20°, picking up the spots and laying them down on a foreshortened scale. A line through the spots may show an unpleasant shape, with odd kinks in it. It might not be noticed when the boat is on an even keel but will show up from the weather side when she is heeled. A beamy, full bodied boat will show some reverse in the sheer when heeled unless the bow is cocked up unpleasantly.

Abrupt changes of form should not be tolerated for she must be all one boat, not a forebody, a middlebody and an afterbody. There are too many of that sort afloat, some of them pretty big ones. All the fore and aft lines, and the other lines as well, must be sweet and smooth, fair curves from end to end, each part of the boat melting into the next. You've all seen boats with "corners" on them and have disliked them at sight.

(To be continued)



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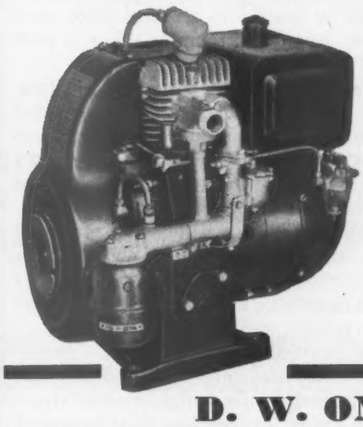

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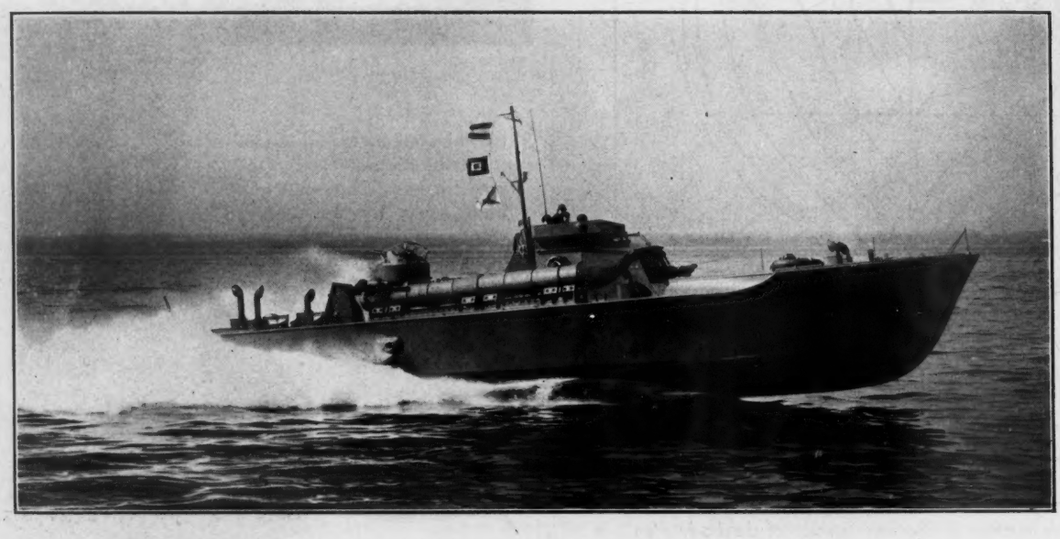

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(*Continued from page 46*)

are still usable. An extra set of shaft bushings would also be a good investment. If extra breaker points can't be found, take extra care of your present ones by resurfacing them with a carborundum stone instead of the usual file.

THE CARBURETOR: The needle and seat will usually be the first to fail. This will cause flooding and loading (an extravagant trouble in this day and age). If a new needle and seat cannot be found, the old needle can be made usable by regrinding in the seat, using jewelers' rouge and much care. This operation is similar to the conventional valve grinding job only on a much smaller scale. A leaking or sunk float can usually be fixed by drilling a small hole where the leak is, draining the gasoline, then carefully soldering over the hole, using as little solder as possible. Be careful not to injure the jets when cleaning the carburetor as they will remain usable for years if not damaged by an outside force.

THE FUEL PUMP: An extra set of parts should be a must in your emergency kit. These should include new diaphragms, springs, washers, etc. If not available, ingenuity should again be called into action. Usable parts should be robbed from any old pump found in carburetor stores or junk yards, taking care to rob only parts that will fit your pump.

WIRING: High tension wire will be almost impossible to find. Your wiring, regardless of condition, can be made usable by splicing, etc. The insulated covering can be sealed, when cracks occur, by using plenty of tape; even plain adhesive tape from your first aid kit will do. After taping up, apply a generous coating of shellac. This will complete the seal. If shellac is not available, use some of your wife's nail polish.

SPARK PLUGS: It is amazing how long spark plugs can be made to last if regularly cleaned and adjusted. (Having a few spare ones is always a wise precaution.) For the duration, don't be too particular about getting plugs with the correct heat range; any heat range plug will serve with fairly good results. Of course, if you can get the correct ones, so much the better.

GENERATOR AND STARTING MOTOR REPAIRS: These units will occasionally break down but, fortunately, there are still a number of good electrical repair houses that employ men who expertly interchange brushes, armatures, etc. The junk yard is the chief source for complete unit changes of this type.

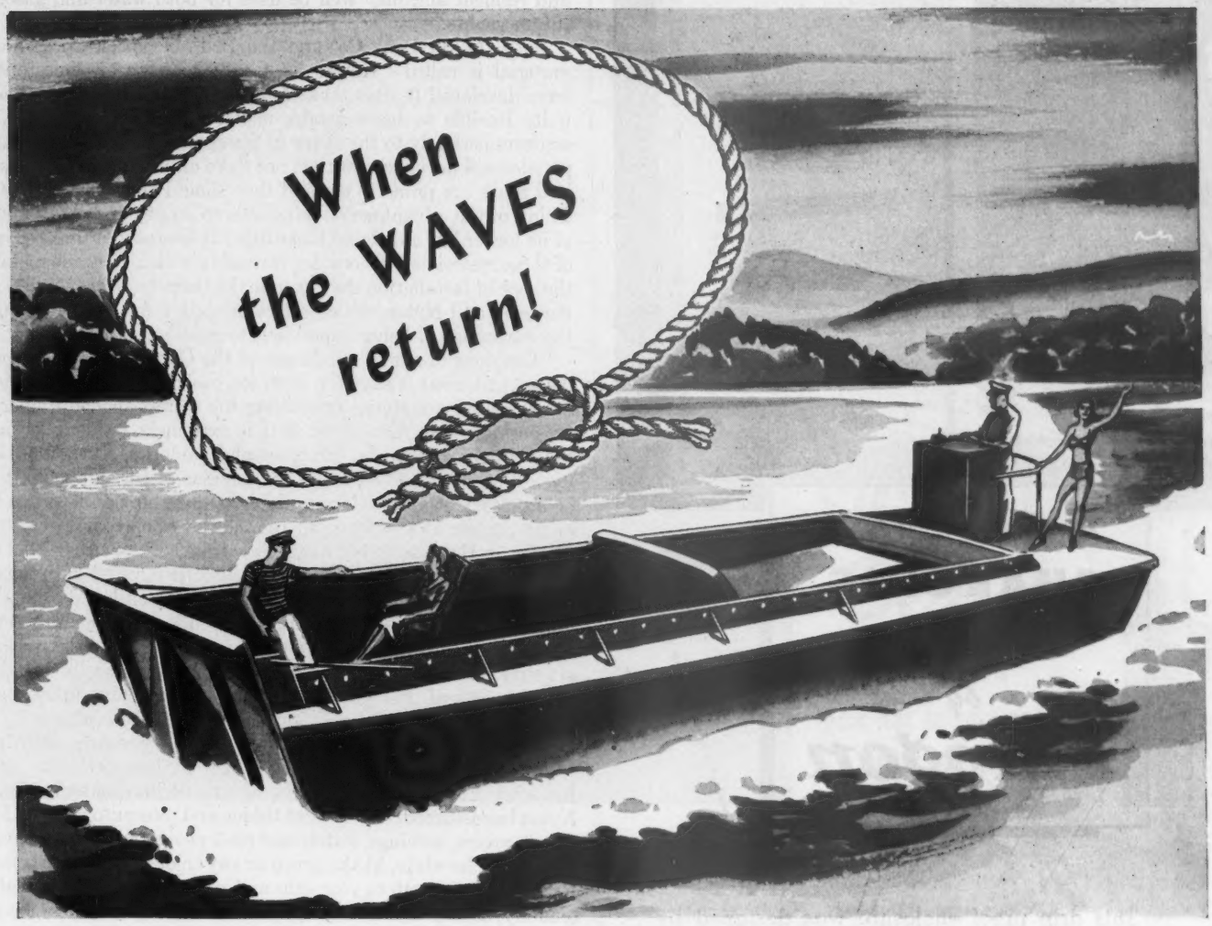
Now, about your engine in general. It would involve entirely too much material to stock up on all the spare parts that may be needed. In fact, you'd need an extra boat to carry your parts. With a little ingenuity, you should get by. Small things, like switches, ammeters, voltmeters, etc., can often be found in an old cellar or garage.

Actual engine breakdowns present a little tougher problem. Cracked heads and blocks in most cases can be welded but main bearing and gear failures are hard to deal with, as are collapsed pistons, broken connecting rods, etc. For help in solving anything along these lines, an expert machinist with a bit of imagination is almost essential; with a little of this and a little of that, he can usually find a solution if the challenge is attractive enough. Whatever happens, remember that it's ninety-nine chances in a hundred that you can make some repair that will work.

I've seen six-cylinder engines run for hundreds of hours after a piston has collapsed. The broken piston was removed, the valves adjusted so they didn't open — and there was a five-cylinder engine that ran exactly like a six with a miss. It didn't run sweet, but it ran; and today that's what counts. Remember, plenty of grease and oil will also help preserve an engine. Never put your engine under a full load. An engine that is never run or pushed beyond 60 per cent of its full horse power will outlast the speedy boys by at least ten times. Rings, bearings, and every part along the line will give double or triple life if treated easy. Almost every serious breakdown I have ever heard of occurred after an engine had been hard pushed. This is especially true in regard to bearings, rings and rods. Make sure that your exhaust valves are seating correctly as this is the only chance they get to cool off.

I know a number of engine experts who declare that improperly seated exhaust valves are the cause of 75 per cent of the inner engine breakdowns for, when badly worn, they get to the point where they allow the hot, exploded gases to filter by the guides and into the crankcase, eventually causing untold damage. This may sound like an unimportant item but one of the best engineers I know says that if exhaust valve trouble could be eliminated, the tearing-down period of aviation engines could be stretched to twice what it is today. Rubber hose connections are going to be hard to replace so take good care of what you already have.

It's going to take a lot of bale wire engineering to weather the storm but remember that, in almost every club, you will find some advanced mechanical "nut" who will be only too glad to impart a little advice for the asking. These fellows sit up nights doping out screwy ideas while you and I sleep and, as we are all living in a screwy world, it's not a bad idea to cultivate them. Who knows, it may be the new order!



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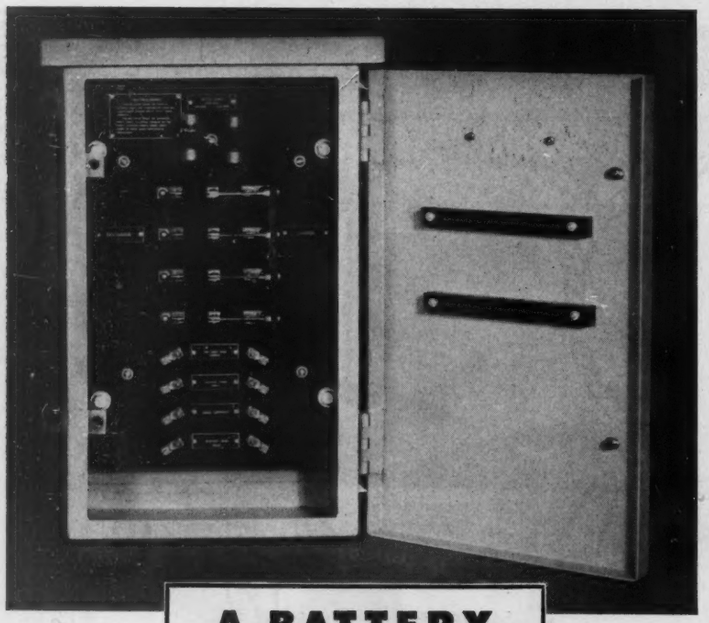

A BATTERY CHARGING PANEL by Paragon

This drip proof enclosure was designed by Paragon especially for Navy Vessels. Made for bulk head mounting of No. 11 ga. welded sheet steel; has ventilating louvres top, bottom and sides; complete with built-in resistors. Some of the other products upon which Paragon is now in full production are:

- Generator and Distribution Switchboards.
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- Telltale and Lube Oil Alarm Indicator Panels.
- U. S. N. Standard 9-S Steel Boxes—Connection—Distribution—Junction—Branch—Telephone Switch Boxes.

Paragon designs and builds special boxes and panels for every application on all classes of ships. Write for complete catalog of Navy Type 9S Boxes.

PARAGON ELECTRIC COMPANY
701 Old Colony Bldg., Chicago, Illinois

Paragon Chicago
BUILDERS OF ELECTRICAL EQUIPMENT SINCE 1905

FOR THE YACHT OF TOMORROW

(Continued from page 28)

and resilient and may well be used for both water and gasoline lines on future yachts.

Both the du Pont Co. and the B. F. Goodrich Co. (whose synthetic material is called "Koroseal," its elements, coal, limestone and salt) have developed flexible tanks for gasoline, and I am told that it will be quite feasible to have a tank made, for gasoline or water, which will conform perfectly to the shape of the space it is to occupy. Tanks of these plastics will never rot, corrode nor flake off into their contents, as galvanized tanks are prone to do, and they should never leak unless punctured. Think of the advantage of being able to empty your tank and pull it out of its locker like a deflated inner tube! It is expected that the cost of tanks of these materials will compare favorably with high grade metal tanks, and the ease of installation may even make them more economical in the end. Koroseal and Nylon make perfect insulation for electric wiring and have the advantage of being impervious to gasoline.

"Cushions of stone" reads one of the Goodrich advertisements, and it means just what it says for, from the basic limestone, coal and salt, they have created a material resembling the softest sponge rubber. It is ideal for cushions and mattresses as it is extremely resilient, is proof against fire, sunlight, grease and dampness and is odorless. It will float indefinitely, for locked within its structure are millions of tiny air cells. It should also be an excellent material from which to make life preservers as there would be no danger of knocking out the man overboard. This hazard is always present in the case of life rings made from cork or other hard substances.

Cushions made of Koroseal may also be covered with a material impregnated with the same plastics since Goodrich has developed materials that are ideal for upholstery fabrics, as well as for many other seagoing uses. These fabrics are waterproof, may be wiped off with a damp cloth, will not get sticky nor crack and will be available in practically any design, color or finish desired. For tablecloths, rainproof clothing, aprons, shower curtains, etc., this material will find a wide field of usefulness.

Come peace, and you will be able to keep dry cereals, dehydrated foods, sugar, salt, coffee, etc., aboard your boat for long periods in containers of Koroseal. This versatile plastic is also made into many of the forms that Nylon has assumed, transparent tubing and mosquito netting, for example.

Sail covers, awnings, hatch and boat covers will be made of Koroseal, which may be white, khaki, green or any color to suit your taste. No moisture will get through to your sails and you will not have to treat the covers tenderly, as at present, for they will not rot from dampness, become brittle with time, nor crack when folded.

These are but a few of the wonders that will become commonplace to yachtsmen in the post-war period. Never in the history of man has the shape of things to come presented such a thrilling prospect, and those of us who remain behind are looking forward to the day when the men overseas come home, to a peace they will have so richly earned, and hope they will be pleased with the handiwork of their faithful servants.

UNDER THE LEE OF THE LONGBOAT

(Continued from page 51)

In the administration building at Dismal Spit there are adjacent offices occupied respectively by a Three-Striper and a Chief Yeoman. If you glance into either office in passing, you'll see a pair of feet perched on a desk and behind the feet a newspaper in which the Commander or the Yeoman has immersed himself, catching up with the war news of the day before. This much being understood, you can appreciate the embarrassment of a messenger who rushed into the Commander's office and exclaimed: "Hi, Chief, what's your telephone number? The Duty Officer told me to check up on it." Without lowering his paper the Commander answered, "Forty-two." Then he came to and with quickly mounting anger proceeded to lay out the messenger for having the nerve to address a Commander as "Chief." How long had he been in the Navy, and where did he think he got off anyway? The messenger took his dressing-down meekly, and who am I to say that he didn't deserve it? But what's wrong with the suggestion, subsequently put forth, that to avoid mistakes of this nature Commanders ought to be required to wear the three gold bars of their rank on the soles of their shoes?

All of the foregoing, as you must have noticed, is a considerable distance from our favorite sport of sailing. But in regard to that I may say that with each passing month we get closer to it. Tunis was a milestone; Pantelleria was a stepping stone; the increased effectiveness of the anti-submarine campaign in the North Atlantic is the touchstone of our progress toward the reëstablishment of freedom. And this time — the thought cannot be repeated too often nor in too many unexpected places — the Germans must not be left with either the inclination nor the ability to break the peace again.

She's a FIGHTING *Beauty*

(and her family name is GIBBS)

This slimly graceful Patrol Chaser is just one of many fighting ships that have gone to sea from the Gibbs shipyards. Many more are still to go—grim in their war-paint, able, hard-hitting and tough.

But underneath their Navy gray they have the same beauty of line, the same excellent workmanship you'd expect to find in a fine yacht. We're proud of the quantity of ships we have built for Uncle Sam's Navy but we're still more proud of their quality.

When the war ends you who appreciate the extra values of such quality and stamina in pleasure-craft and work-boats will again have at your disposal the high skill of the Gibbs organization . . . skill born of 32 years of building and repairing all types of steel and wooden vessels.

GIBBS GAS ENGINE CO., 4 Flagler St., Jacksonville, Florida

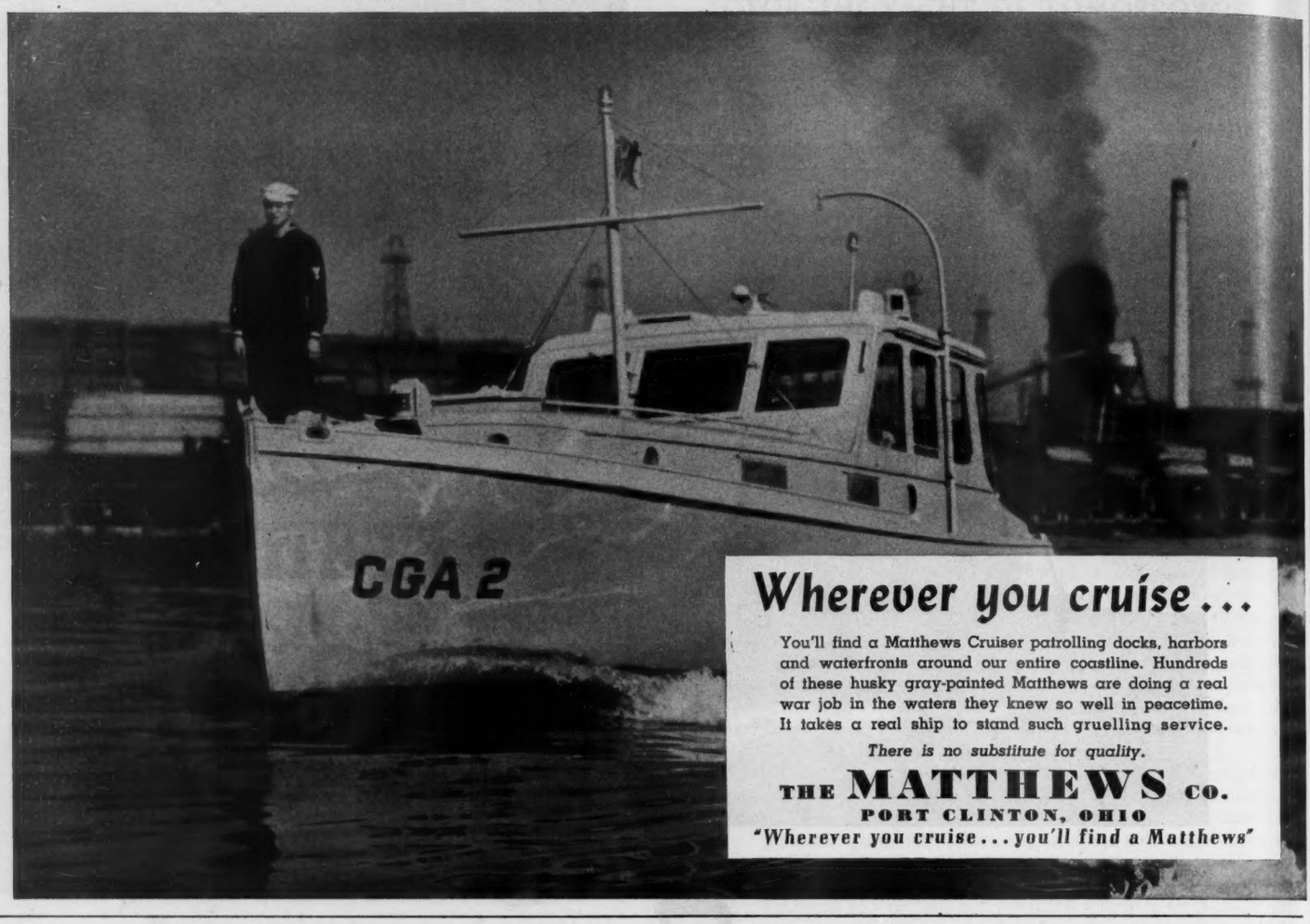
★WAR BONDS *Paid for Her*

Every purchase of War Bonds helps finance some such weapon as the PC shown above. So—buy War Bonds to help keep America supreme.

★ ★ ★

ARMY E NAVY

GIBBS


CGA 2
Wherever you cruise . . .
You'll find a Matthews Cruiser patrolling docks, harbors and waterfronts around our entire coastline. Hundreds of these husky gray-painted Matthews are doing a real war job in the waters they knew so well in peacetime. It takes a real ship to stand such gruelling service.
There is no substitute for quality.
THE MATTHEWS CO.
PORT CLINTON, OHIO
"Wherever you cruise . . . you'll find a Matthews"

WITH THE COAST GUARD AUXILIARY

(Continued from page 41)

bearing. 1114 took aboard member P.O. Bylaska and shoved off from Boca Grande pier. 1210 Sea rough. Arrived at scene of crash and picked up survivor. Pilot burned on left arm and both legs, suffering shock. First Aid given. Pilot placed aboard C.G. picket boat and rushed to Placida. No wreckage noted."

▶ Flotillas 23 and 24 (Seattle) have recently concocted a plan which warrants consideration by all CGA Flotillas which are handy to military and/or naval posts. On a Sunday early in May, these two Flotillas were hosts to nearly 150 service men who came from nearby bases, the Marine Hospital and other convalescent homes. Transportation was furnished the service men to the yacht clubs, where they boarded Auxiliary boats at 1100 and sailed out, in column, through the Montlake Cut and thence onto Lake Washington. There they witnessed the annual yacht club "Opening Day Program," and sail boat races. It is planned to make this a weekly affair among the Flotillas of Division 2, each taking a week-end in turn.

▶ Temporary Reserve volunteers from Division One of the Ninth District (St. Louis) performed a major Coast Guard operation last month by assisting in delivering a fleet of Coast Guard vessels from Portage Des Sioux, Missouri, to St. Paul, Minnesota. The following report by Ensign (T) Rardin, Commander, Flotilla 7, Division 1 Red Wing, Minn., gives the high spots of this unusual operation:

"After leaving the District Office and having been issued blankets, mattresses and uniforms, we were transported by truck to the base at Portage Des Sioux, Missouri. We arrived there about the same time that a gale started blowing and temperatures started downward.

"It was planned that we get under way for the up-river trip the following day at noon. Noon came and went and so did the afternoon, and the boys had their first taste of the old "stand by" order. It was decided that we would not cast off until the next morning as we hoped the gale would blow itself out. The next morning broke bright and clear with the wind still blowing and at 7:30 (April 14) the convoy of 19 boats pulled away in V-shaped flotillas of five boats each. It was a thrilling sight.

"Due to the fact that our motors had just been overhauled, we operated slowly the first day and, as the sun was going down, we arrived at the port of Hamburg, Illinois. Then came the first experience of securing the fleet for the night. All 19 boats were lashed together and secured safely. Guard details were arranged and posted throughout the night. 'Hit the Deck' came at 6:00 a.m., after a cold night, and we were on our way at 6:45. Routine of the day began with breakfast under way. Each man took his turn at the galley and, with breakfast out of the way, the cleaning of the boats, swabbing the decks and polishing everything that could be polished. Each man took his turn at the wheel and this routine was followed throughout the trip. After the third day, the routine was well established.

"We hit the crest of the flood waters about 50 miles below Rock Island, Illinois, and small trouble stalked us from then on for many miles. Chief Sylva and I were on the flagship and spent the days charting the course and looking for buoys that were not there and trying to figure the chart line from a river that had no banks. For two days the stream was full of floating debris and half sunken deadheads. Fortunately, the entire convoy passed through that bad stretch with no major trouble. Water pumps were continually giving trouble during that time and it is surprising that they worked as well as they did from the amount of mud being carried by the river. Strong current and high winds cut our speed to about five miles.

"After leaving Rock Island, we made better time as the river conditions began to get better and we had delivered part of our convoy. Goodbys were said to the crew that we left there. A finer bunch of men could not be found than the regulars we had with us and we would have liked to have had them with us all the way. With the port of St. Paul our goal, the crew settled down to the steady routine of the cruise and always with the thought of liberty in town when the day was over. Our stops at Burlington, Rock Island, Quincy, Muscatine, Bellevue, Keokuk, Prairie Du Chien, and Winona were most enjoyable. We can make a fine report on the conduct of all of the crew as there were no AWOL's and no one was ever late for muster. The reception at Red Wing was a grand welcome home. Hundreds of people were there to greet us and our own Reservists were on hand to take over guarding the boats and to release the entire crew for liberty.

"At 7:30 a.m. (April 24th) we cast off for the final destination, St. Paul. We arrived there along in the afternoon and were greeted by Ensign Langenberg and Captain Winchell together with other officers and personnel of the port. After having our pictures taken, equipment was checked into the custody of the Captain of the Port and our assignment was over. We look back on it now with a feeling of satisfaction in knowing that we beat 'Old Man River' at his worst and delivered our boats in good order."

News on Engine Shipments

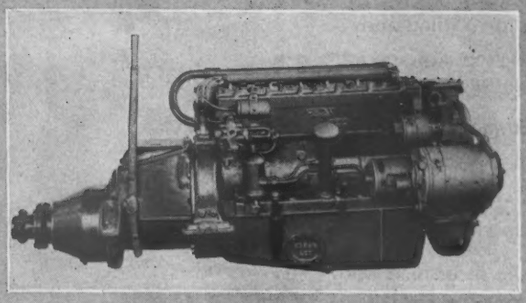
Most of the pleasure boats are today engaged in practical activities such as Coast Guard service, patrol work, training programs and supply assignments. In this service their engines are called upon to operate longer hours, and under more severe conditions, than anything they were ever called upon to do in peace time; often in the hands of inexperienced operators.

Because of these serious requirements, new government regulations have now made replacement engines and engine parts available to the owners or operators of these boats, and have assigned to them a high priority.

Meanwhile long term planning which takes into consideration the procurement of materials at their source, is making provision for production under the new facilities arranged to care for these emergencies.

Included are heavy-duty models of gasoline engines required for new boats or as replacements under approved certifications of necessity.

We are giving this replacement situation publicity, in the face of contracts which approach Gray capacity, because it is owed to the Boating Industry. Write us for details. We will be glad to assist you if you *need* an engine.



Gray SIX-121, the smoothest and quietest "Big Six", with 330 cubic inches of piston displacement for turning big propellers effortlessly; one of the gasoline engine models with reduction gears as required now available in limited quantities on the new work boat priorities.

Marine Engine Instruction Books

Gray's illustrated Instruction Manuals and Handbooks, published since the war, cover Installation, Operation, Maintenance, Overhauling and Trouble Shooting. Useful to Students, Naval Operators, Amphibians, Boat Owners, Power Squadrons. Write for complete list of Gray Technical Literature; please specify Gasoline or Diesel.

GRAY MARINE MOTOR COMPANY
656 Canton Ave., Detroit, Michigan

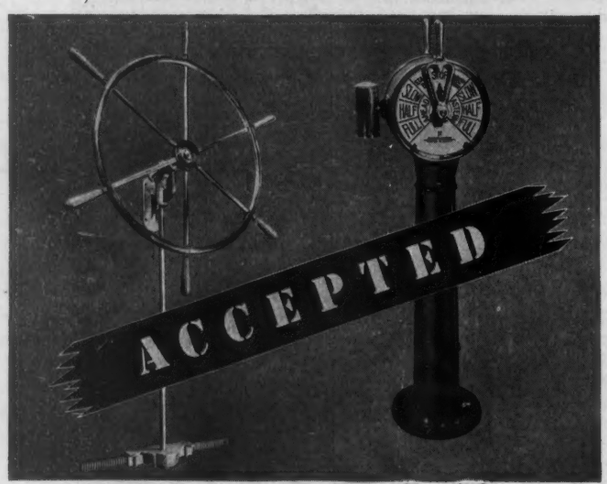
"When the paint is made by Smith— the finish is never in doubt!" —says Old Cap' Smith

Gallon after gallon X thousands in many different types of special marine finishes for war craft have been made by Ed. Smith & Co. since Pearl Harbor—with unvarying quality and strict adherence to government specifications.

Ship builders, like yachtsmen who use Smith's Cup Defender Finishes, have come to know there's no doubt about the finish when the paint is made by Smith!

E.S. 1827 & Co.

EDWARD SMITH & CO., INC.
Marine Finishes Exclusively
11 East 36th Street, New York, N. Y.



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MARINE WINDOWS • STEERERS

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SIGNAL LIGHTS
DECK LIGHTS • PORTLIGHTS
NAVIGATION LIGHTS • VOICE TUBE EQUIPMENT

DURKEE-MARINE PRODUCTS CORP.
GRASMERE, STATEN ISLAND, N. Y.

News from Yachting Centers

MASSACHUSETTS BAY FLASHES

By Ed Earle

▶ Despite the shadow of the War and the shortage of gasoline, the 75th annual opening Memorial Day regatta of the South Boston Y.C. drew a fleet of 33 boats, only one short of last year. The traditional memorial services were held, with the strewing of flowers on the waters to departed members of the club. Allan Coolidge enacted the role of Neptune and the bay was officially unlocked with the golden key by Commodore James Lee. The Rev. James J. Keating, formerly a leading helmsman of the club, gave an inspiring address on "carrying on" for the many members now in the armed services. He then donned yachting togs and won the feature race at the tiller of Tom Moroney's Massachusetts Bay 15-footer *Flirt*.

▶ Wightman and Harold T. N. Smith, of Marblehead, CBM in the U.S. C. G. Temporary Reserve and race committee expert of Boston and Corinthian Y.C., have been greeting old yachting mates the last few weeks at the Coast Guard auxiliary office at 40 Central St. during the recent drive to swell the Temporary Reserve ranks for port security duty. Many a Power Squadron man, who knows he cannot have the gasoline for pleasure cruising this summer, is volunteering for service.

▶ For the beach pounding course, the Coast Guard is offering an indoctrination school at the Buzzards Bay barracks, with Temporary Reservists reporting aboard at 1100 every Sunday and going ashore again at 1030 the following Saturday. Between times, they become "boots," up at 0600 and putting in a full day of signalling, lectures on beach patrol and port security, handling small arms, close order drill and training movies, with lights out at 2200.

▶ This year's yacht racing season at Marblehead will be on the lines of 1942, including the annual classic Marblehead Race Week. The first race is slated for June 19 under the burgee of the Eastern Y.C. There will be a race every other week by the Eastern with the Corinthian Y.C. taking over the alternate weeks up to and including Labor Day. Race Week, which drew more than 200 boats last year, will be from July 31 to August 7, inclusive. The Eastern will also carry on its nautical instruction program for juniors, with William F. ("Bill") Boles as instructor.

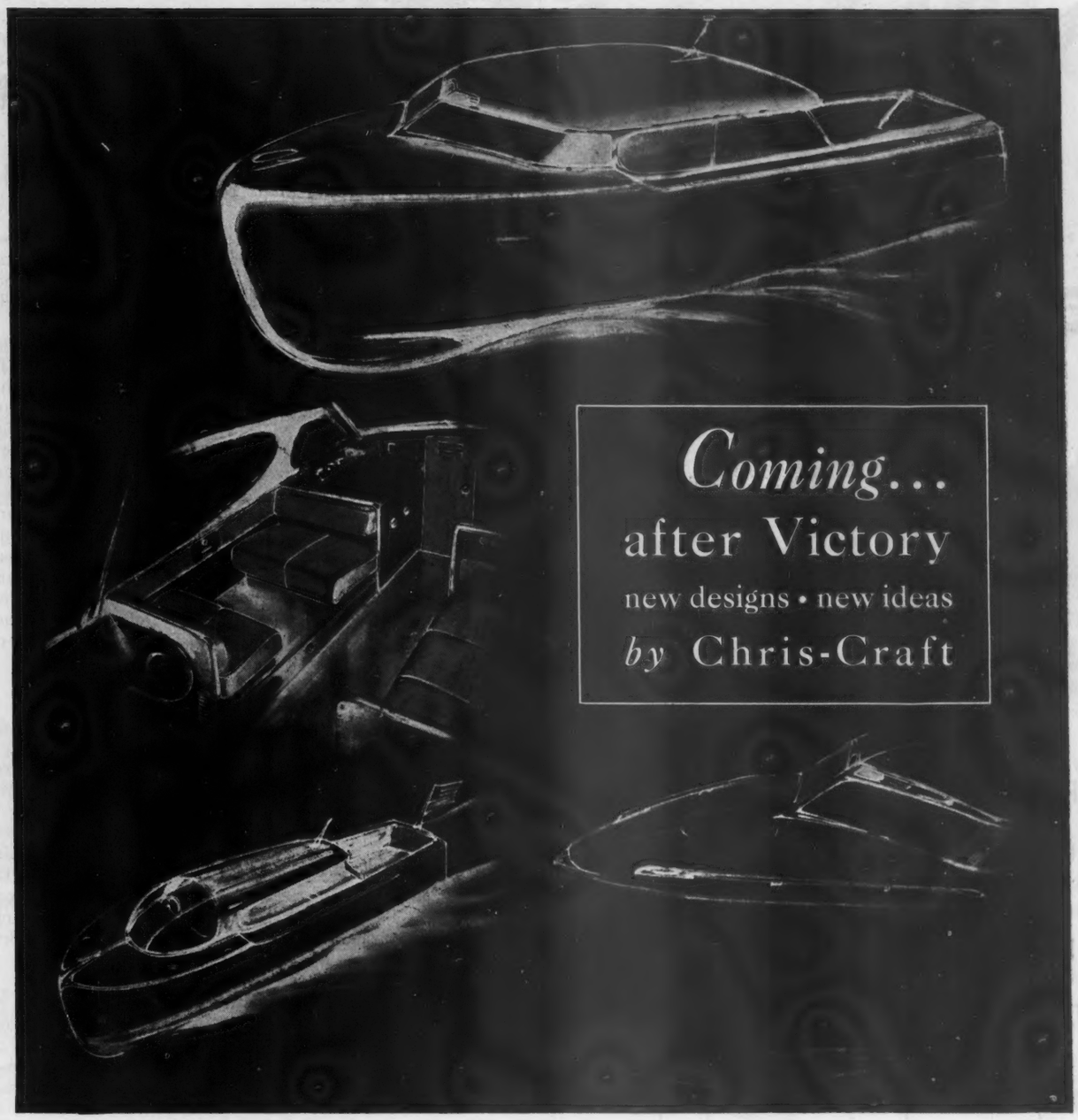
▶ The Town Class Association has been formed at Marblehead. The officers include Larz Anderson, president; Wilson Palmer, secretary-treasurer; Myron Hutchinson, Ed Lynch, Cedric Arnold and Lewis Zorzy, regatta committee. A fleet of 15 to 20 Town Class boats will race this year, and will feature individual prizes for each race in lieu of series awards. The Coast Guard has allowed a new outside mark off Halfway Rock, which should produce a nice thrash in a southeaster. The Towns started the season on June 8th with a weekly twilight series.

▶ The Manchester Y.C. will be open this season but no definite program has been planned because of war conditions. Races will be run for dinghies, anyway, with Mrs. William Hooper offering two handsome trophies for the season championship, the Captain Robert Bennett Forbes Cup as first prize and the Edith Forbes Cup as second prize. A plan to provide good racing with safety has been devised, with Henry Hall in charge. Gasoline will be sold as usual to persons with boats entitled to it.

▶ The Cottage Park Y.C. opened its regular Saturday races, Sunday and Twilight series last month. The Bliss Trophy will be awarded to the Radio Class boat winning the most points in the three series.

▶ The office of Eldredge-McInnis, Inc., reports the sale of the 34′ twin screw Matthews cruiser *Galatea* for A. D. Straiton; the auxiliary schooner *Stormalong* to Edward T. Dahl and Bradford G. Wooley, to be used in Rhode Island waters; the 30′ sea skiff *Peter*, from C. H. Sayre to Harvard College; the 32′ Wheeler cruiser *Bobby D*, from Charles W. Johnson to Joseph H. Schuldice. Charters include the 35′ over all Week-Ender *Morning Star*, for James M. Hunnewell to Clifford Smith for the whole season; the 35′ auxiliary yawl *Bittersweet II*, for a short cruise in June for the Brackett Parsons to Douglas Danner of Waban. A fleet of 15 draggers from the board of Eldredge-McInnis is now under construction.

▶ Although shaved down in number, the Indian Class dories have been engaged in hot competition out of the Squantum Y.C. in Quincy Bay. Herbie Allbright's Lipton Cup winner *Osseo* is still going strong with two firsts and a second in the first three races. The patrol service is cut down because of the gasoline situation, necessitating calling off the Snipes and smaller craft in strong wind conditions. Arthur Mintie's boat will soon be



Today we're 100% on war work producing vital craft for the U. S. armed forces at the fastest rate in history. Immediately after victory we'll be ready with a complete new line of Chris-Craft Runabouts, Utility Boats and Cruisers.

Buy U. S. War Bonds Today— Tomorrow command your own

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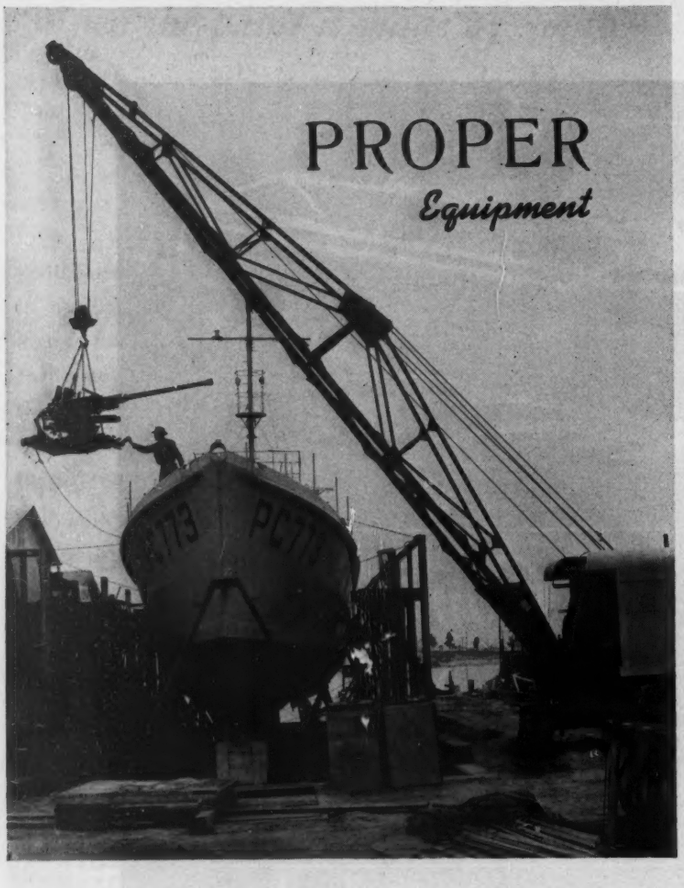
For Production

WORLD'S LARGEST BUILDERS OF MOTOR BOATS

ARMY E NAVY Well Done



The proper equipment on Uncle Sam's fighting craft means success in battle.

The proper equipment in a shipyard means good shipbuilding.

The Peyton Company has the proper equipment, and the reputation for building first class vessels, today for Uncle Sam . . . tomorrow, for all boat-lovers.

KEEP BUYING THOSE WAR BONDS & STAMPS

THE PEYTON COMPANY
BOAT BUILDERS ★ NEWPORT BEACH, CALIFORNIA

in commission and the situation will be greatly simplified. Up at Marblehead, Harold Pierce's *Venture*, of the Coast Guard Auxiliary, has been named as the rescue boat.

▶ The Interclub Races include the following dates: July 4, South Boston; 18, South Boston; 31, Marblehead Race Week start; August 15, South Boston; 22, Pleasant Park; September 4–6, Wollaston Three-Day Regatta; 11, South Boston, Walter Lane Cup; 12, South Boston Chowder Race.

LAKE ONTARIO NEWS

By W. Peck Farley

▶ With the water still steadily rising, courses in navigation are suggested even for pedestrians at the Rochester Y.C. At times the parking yard is completely submerged, blocking entrance to the club without boots. Work still continues on boats, however, and the Stars and "Sixes" have already started their official racing season.

Owing to the gasoline ban, a permanent course has been set up out in the lake and races are started and finished at the yacht club dock. This means that the river now becomes part of the race course. Anyone who has ever had to beat out of the channel can realize what a hazard this is and many a race "won" in the lake can be lost coming in the river. And freighter traffic is unusually heavy this year and we are all anticipating the day when George Culp has to give the first place gun to a freighter instead of a yacht.

▶ Ed Doyle has sold his yawl *Sea Gypsy* to Johnny Heinrich and Johnny sold his Six-Metre to J. Francis Hanratty. Harold Batty sold his sloop *Slipper* to George Betlem. Dave Bellamy, who is serving as a major in the Marine Corps, sold his sloop *Four Bells* (for the four Bellamys) to Chuck Angle who has changed the name to *Quad* (for the four Angles). Benoit Wittig, of Green Bay, Wis., bought Bosie DePuy's *Gray Ghost* and left Rochester with Bo aboard a couple of weeks ago. C. J. Willing, of Detroit, has bought Bob Gordon's N.Y. "32" *Vitesse II*.

George Angle is now serving with the Navy.

▶ The Rochester Power Squadron has 15 new advanced pilots and 25 new elementary pilots. There are now 35 men serving in the armed forces. The 6th District, which extends from Buffalo to Watertown, held a recent conference in Syracuse with seven of the nine squadrons represented.

▶ The Sodus Bay Y.C. is suffering the effects of high water which is practically surrounding the clubhouse, with perch and pike swimming around the front lawn. That fact, coupled with the gasoline ban, make things look pretty discouraging until at least July 4th. Bill Croucher, Commander of the Sodus Bay Power Squadron, is working with the trustees of the club on a project for using the clubhouse as headquarters for the Seamanship Training Corps.

▶ The high water has done one club at least some good. The Nine Mile Point Y.C. now has a safe anchorage in the creek behind the clubhouse.

▶ The Newport Y.C. opened the season Decoration Day week-end with three handicap races, top honors going to Tom Sullivan, a newcomer to the club, in his Snipe *Blue J*. The official racing season started June 6th with Earl Klem, last year's champion, taking an easy first. In spite of lack of transportation other than bicycle or "shank's mare," there were 12 boats out of a possible 17 in the first race. The dock at Newport washed away.

▶ There are about 110 enlistments in the Rochester Coast Guard Temporary Reserve. These men have been giving 12 hours a week to standing watch at the Coast Guard Station at Summerville. *Ammee*, a 41′ twin engine cruiser, has been turned over to the Rochester Coast Guard.

▶ The Seneca Yacht Club, at Geneva, has elected the following officers for 1943: Commodore, Cebern Lee; vice Commodore, Wm. Robson; fleet captain, Wm. T. Tapley; secretary, Ed W. Vick; treasurer, Oliver A. Wood. Forty members of Seneca are in the armed forces; this is a pretty big percentage but those left behind are carrying on. Three races were held Memorial Day week-end and the annual Fitting Out Party was held earlier.

▶ The Youngstown Y.C. has planned an extensive racing season from June 12th to September 12th. This will include some cruising races to Toronto, Port Dalhousie, and Presq' Ile. The water is up over the lawn right up to the clubhouse but the four Six-Metres have started their racing, Sherm Cannon, in *Alarm*, coming out on top for the first race. The Y.Y.C. Coast Guard Reserve Flotilla 307 is on active duty at the Youngstown C.G. Station. The bombing range west of the river has been extended another 6,000 feet and boats planning to visit Y.Y.C. should get instructions before arrival. Carl Sprague has chartered *Bangalore* for the season.

THE HEAT'S ON!

Round the world "BEACH BUSTERS" make hot news

MASSACRE BAY
ATTU
(Press Ass'n Photo)

SOUTH PACIFIC
(Off'l U.S. Navy Photo)

OUTPOST IN
SOUTH PACIFIC
(Off'l U.S.M.C. Photo)

MOROCCO
(Int. News Photo)

SOLOMONS
(Off'l U.S.M.C. Photo)

(Right) SURCOUF
NORTH AFRICA
(Acme Photo)

You'll be seeing more and more of these craft that land our surf raiders on enemy shores.

Every American boy can identify them, and knows their famous builders . . .

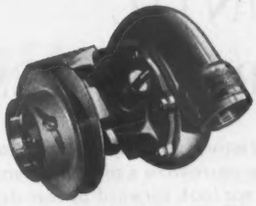
. . . knows their builders' record-breaking production of this unique equipment . . .

. . . for a new invader force as distinctively American as were our Rough Riders at San Juan Hill and our Indian fighters on western plains.

Hats off to them — to our "beach busters" and to our boat builders.

The heat's on in the shops of these boat building giants. And the heat's on for their suppliers, too — plenty!

We're a little proud at keeping pace with their production — to give them the marine engineered equipment to "keep 'em floating" and under control.*



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MARINE PRODUCTS THROTTLE AND CLUTCH CONTROLS

* Also special application types for the duration

MARINE PRODUCTS CO.

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MARINE ENGINEERED EQUIPMENT

POST-WAR
LAUNCHING PARTY

As soon as Victory is completely achieved, chances are, one of the first things you're going to do is have some **FUN. RELAX. ENJOY** the priceless luxury of God's wide open spaces! To do this, you'll want a boat . . . a sailboat, a rowboat, an outboard, a family outing boat. And if you follow your good judgment through, you'll make your choise a *Dunphy*. In the meantime, BUY WAR BONDS.

DUNPHY BOAT CORP.
Oshkosh, Wisconsin

Dunphy
OUTBOARDS - SAILBOATS - ROWBOATS

UNTIL
VICTORY COMES!

Until complete Victory is ours, the sport of boating can be no more than a pleasant memory. How *eagerly* we look forward to that day when we can show you the many new and improved W-C "Dependable" Boat Fittings which have been scheduled for peace-time production! Meanwhile, all America concentrates on just one objective—the fight to establish world freedom . . . a *lasting* freedom of the seas! When that mission has been accomplished we shall return to the pleasures of boating; but until Victory comes let us all

KEEP ON BUYING U. S. WAR BONDS!

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Manufacturers of "Dependable"
Marine Hardware Since 1847
10 South Main Street
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ON COLLEGE CHARTS

By Leonard M. Fowle

▶ The sailors of M.I.T. proved that their national dinghy championship triumph in the Morss Bowl was no upset when they won the 13th Boston Dinghy Club Challenge Cup regatta, May 16th. In some respects, the event was more interesting than the Morss Trophy in that Harvard and not M.I.T. was out in front for a good part of the racing and it took an uphill battle by Tech to triumph. The presence of the Associate Member team from Holy Cross, added zest to the racing.

Without Dave Noyes but with George O'Day and Johnny Burton sailing brilliantly, Harvard was ahead for seven races in each division. However, in the eighth race, M.I.T. went ahead to hold the advantage to the end, although Holy Cross was trailing by only a single point as the last heat was started. The regatta was sailed in good easterly winds, shifting to south in the late afternoon. Final scores were: M.I.T., 179; Holy Cross, 177; Harvard, 166; Boston College, 149; Coast Guard, 142; Bowdoin, 130; Northeastern, 125; Dartmouth, and Tufts, 82; and Stevens Tech, 56. Evans and Sam Parkinson were the winning Tech skippers and Thomas Macdonald, of Holy Cross, took high point individual honors with 92 points.

▶ Although the two institutions had been sailing against one another for several years in big regattas, it was not until May, 1942, that our nautical service academies met for the first time in dual sailing competition. On May 22nd, at Annapolis, Navy and Coast Guard clashed at yacht racing for a second time.

A year ago, on the Thames, the Navy sailors were the victors; but it was the Coast Guard team which turned the trick on the Severn to score the first dual meet triumph of any rival over the Midshipmen in home waters since 1941. In a fine whole sail northerly, Coast Guard defeated Navy in both Stars and 14′ International Dinghies.

In the Stars, Philip Hildebrandt and Frank Fisher sailed the Coast Guard team to a 31-25 victory, leading all the way; but it was much closer in the 14-Footers with the issue not decided until a protest had been heard at the conclusion of the racing. Led by Roger Fontaine, Navy built up an early lead of sizable proportions which the Coast Guard slowly whittled away, beginning with the fourth of eight races. Midshipmen led by nine points going into the final race but Norman Barlow and Charles Daniel, high point skipper, finished one-two with the other Coast Guard boats fourth and sixth in this contest to eke out 176–173 victory.

A third meeting in Navy's yawls was sailed on May 23rd which the Midshipmen declined to claim when it went two minutes over the time limit; save for fickle wind, Navy would have finished first and third in this race of four boats.

▶ Not to be outdone by its traditional rival, Holy Cross (which two weeks earlier had won the New England dinghy championship), Boston College sent a crack freshman crew of Edward Gallagher and Frederick Sheehan, to Brown on May 15th to win the I.C.Y.R.A.'s Third Annual Freshman Championship. Coast Guard's Philip Hildebrandt placed second. The scores were: Boston College, 49; Coast Guard, 41; Yale, 40; M.I.T., 34; Holy Cross, 32; Worcester Tech, 20; Northeastern, 18; and Brown, 16.

▶ Haverford and Princeton met in a dual meet in the former's Penguins at Essington, on the Delaware, May 16th. After some extremely close racing, Haverford won by 29-25 in light to moderate easterly winds.

▶ The McMillan Cup competition for 1943 got under way on June 5th when the first of two preliminary series was held by the Naval Academy on the Severn. It was touch and go between three good skippers, James McCambridge, of Pennsylvania; Jonathan Bushnell, of Haverford; and Roger Fontaine, of Navy, each of whom won a race. Two seconds by Captain Fontaine gave Navy the honors with 10¼ points to Haverford's 9¼ and Penn's 8¼ in the battle to earn a place in the finals at Marblehead June 20th–21st.

▶ Commodore John R. Taft, of the Nautical Association of M.I.T., was elected president of the I.C.Y.R.A. at its 16th annual meeting in Cambridge, May 8th. Taft succeeded David C. Noyes, Jr., of Harvard.

▶ The Association voted to consider men training under the Army and Navy programs as bona fide undergraduates of the institutions to which they are assigned, regardless of previous affiliations, provided they have not already received a bachelor's degree from some other recognized college. The sailing of a Star Class championship of the I.C.Y.R.A. during the current summer was authorized. The following summer racing dates were tentatively announced, but they are subject to change: July 24–25, Star Class Championship at Coast Guard; August 21–22, Fowle Trophy Regatta at M.I.T.; and September 11–12, Danmark Trophy Regatta at Coast Guard.

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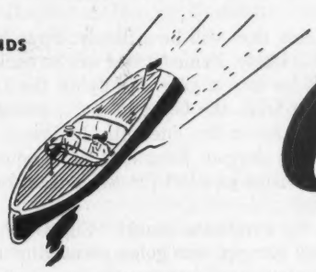

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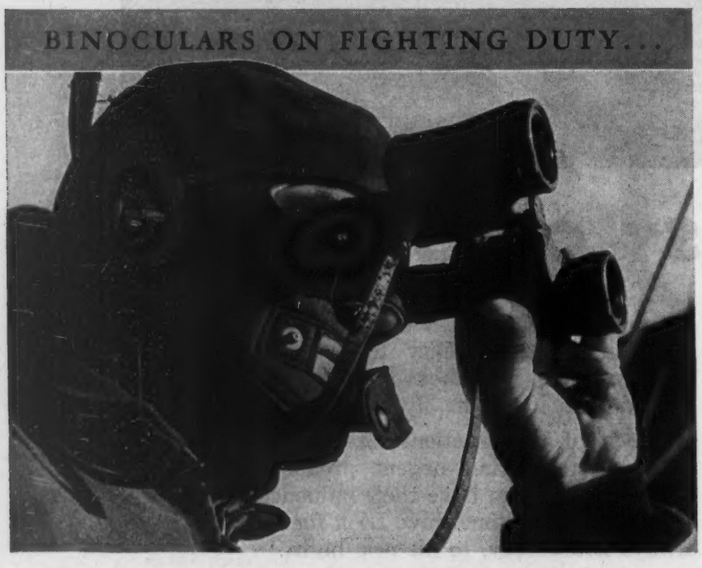

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NARRAGANSETT BAY GOSSIP

By Jeff Davis (Old Doc)

▶ Long years ago, an old scout named Joe Miller wrote a book full of jokes and made a lot of money selling it. If somebody, now, could get together all the asinine stories about what you musn't do with your gasoline, if you happened to have a little in your tanks, and waited until this shortage is over, he'd have something funnier than anything Joe Miller ever thought of. Give the power boat owners time enough to get over their disappointment and see the funny part of it, and they'd buy it to keep as a souvenir of the days when the OPA's famous C5 meant all things to all men who happened to be OPA heads.

▶ Despite all the horrible punishments that might be handed out, more power boats than I had expected are being gotten to their moorings with everything intact. Owners are hopeful, despite Mr. Ickes' dismal outlook. If they can't go to Potter's Cove, they can have mooring parties at home.

▶ *Short ends.* The Narragansett Bay Y.A. has elected H. R. Norgaard president, Ray Colley vice president, William T. Bailey secretary-treasurer and Jeff Davis race record secretary. Seven clubs have picked regatta dates and the association will fill in unclaimed Saturdays. . . . Dave Aspray has leased the McLeod yard, adjoining his own, at Pawtuxet. . . . William P. Buffington, Bristol, has sold his 43′ Lawley cruiser to William Booth. . . . John Carr has bought a Herreshoff Bullseye and named her *Pollybob* after his youngsters, Paula and Roberta. . . . Earl Hanson has bought Ford Wilson's little auxiliary sloop *Nordic*. . . . Mrs. Bill Moody didn't like the name of Bill's sloop, *Solitaire*, said it was too lonesome sounding, so Bill has had *Normeorie* painted across the boat's transom. . . . The Cranston High School crew, Jack Latham and Russell Hunt alternating as skipper, won the Brown-sponsored interscholastic championship regatta with Country Day in second place, Moses Brown third, St. George's fourth, Portsmouth Priory fifth, Loomis sixth and LaSalle Academy seventh. Lieut. Miller, of Mystic, Conn., who bought Allan Grimwood's New Bedford 35 *Bye Now*, has changed the name to *Tomandrious*. The boat has been delivered at Mystic. . . . Another change of name is that of Steve Kindelan's new Indian. He didn't seem to like *Thunderjug* so he changed it to *Indian Penney*. . . . And George Cummings has changed *Babs'* name to *Jana*. . . . Marty Keeler has bought the Alden-designed cutter *Leilani* from James M. Willis, of Greenwich, Conn., and will keep her at Jamestown. . . . Clarence Sayles, former owner of the cutter *Radiant*, has bought the Alden-designed cutter *Suwarra* from Alfred T. Carton, of Lake Forrest, Ill. The boat has hailed from Jamestown, where Mr. Carton has a summer home. . . . Two new members of the Rhode Island Y.C., Messrs. Woolsey and Dahl, have bought the schooner *Stormalong*. She was the first boat built by Perkins and Vaughan, at Wickford, and was for Charles B. Perkins, a member of the firm, who has been in the service for more than a year. . . . Another new arrival at the Rhode Island Y.C. anchorage is the 60′ Luders-built cruiser *Kingsdale*, owned by Michael Morgsnelli, of Milford, Mass., one of the new members. . . . Bob Dodds' Atlantic *Sister* has been sold to James Bianchi, of East Greenwich. . . . The annual regatta of the Mariners (girl Sea Scouts) for the Jesse H. Metcalf Trophy was sailed in Beetle cat boats at the Edgewood Y.C. on June 27th.

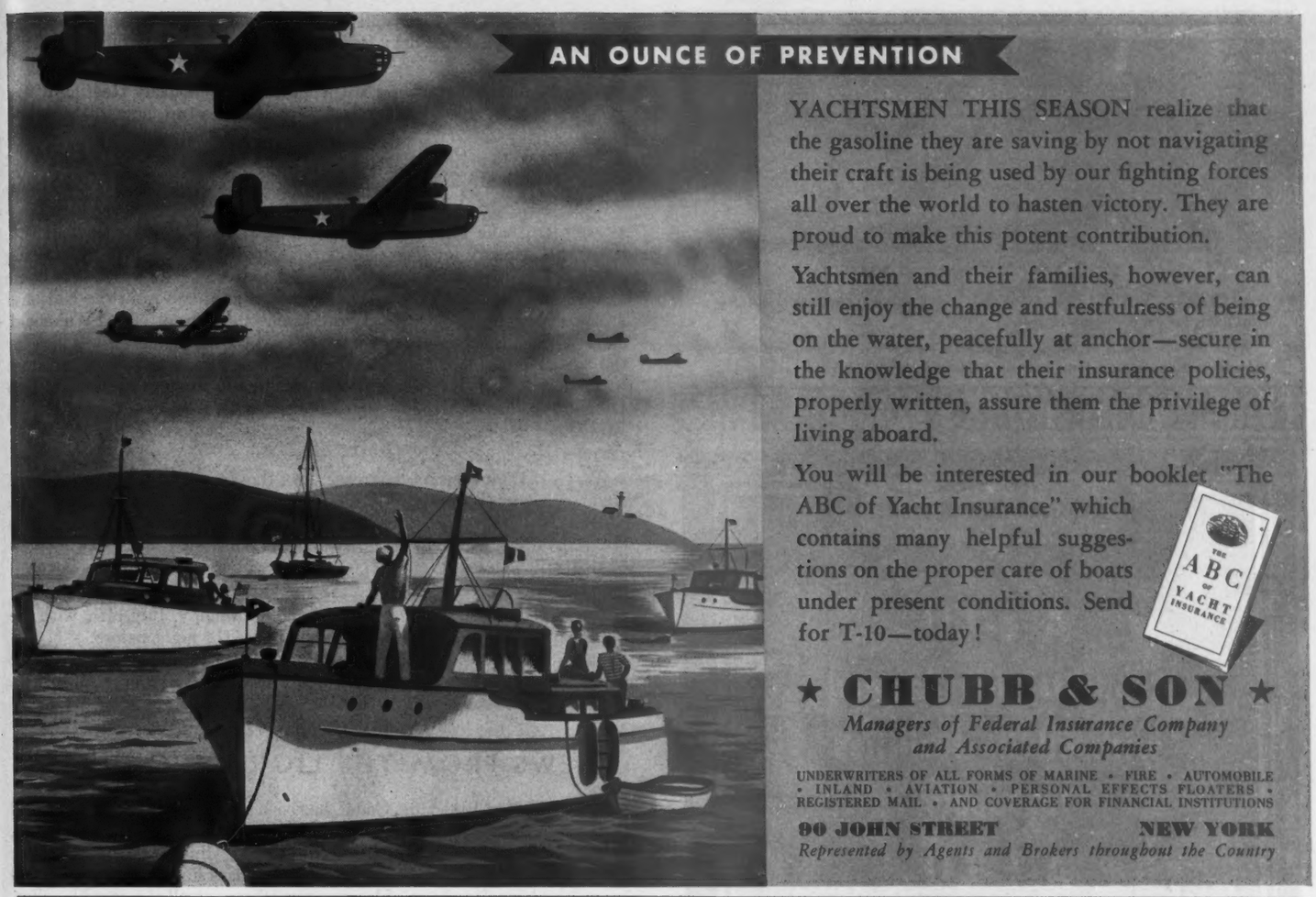
DETROIT JOTTINGS

By George E. Van

▶ There won't be many more than a dozen yachts poking their noses over the starting line off Gratiot Beach in Lake Huron in the Bayview Y.C. annual 250-mile race up to Mackinac Island this month. The important thing is that the race is *on* and every man aboard a racing wind wagon will fully appreciate the privilege of sailing in this, the second wartime Mackinac cruise. Charley Beck, who is running Bayview's show this year, says he has talked to all skipper-owners available and learned that:

▶ The racing fleet will be a dandy. Four Eight-Metres are certain to go and a fifth is likely. Ernie Grates will be back with *Shamrock* to try to keep the honors he won a year ago flying the Detroit Y.C. burgee. *Warrior*, the old flyer from the Chicago Y.C., brought here last year by Freddie Temple, will be at the line with Joe Snay, the dean of our local active yachtsmen, as skipper. Temple is now a lieutenant in the U.S. Army transportation division and left for service last month. He has turned *Warrior* over to Snay.

Pintail, the syndicate-owned "Eight" of Perce Darnell, Clyde Palmer and Murray Knapp, was going great guns in the early regattas on Lake St. Clair, just as she did when sailed here by Russ Pouliot, and will be tough to beat. George Gonyeau was awaiting delivery of *Armida* from the East when this was written and W. R. Loughlin was commissioning *Rangoon* up in Bay City and expected to have her ready. *Rangoon*, it will be remem-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bered, went on the rocks off of Thunder Bay Island during last year's Mackinac race when she was owned by Temple. Her damage wasn't as serious as figured. When she was raised, she needed only a couple of planks and frames to make her a lady in good standing again.

But that's old bilgewater. With a likely starting fleet of five "Eights," Bayview has something to crow about. For some reason or other, the racing class has been slow to get going in the Port Huron-Mackinac Race.

▶ Way back in the first days of the race, back in 1925–26, the boys used to sail the R boats up to the island. *Bernida* was first in both of those years, first with Pouliot and second with Bob Bryant as her skipper. But Bayview, with an eye on the safety factor and the future of the race, cut out this free style bathing after the '26 race.

This evoked a considerable squawk from the R boat boys at the time. They pointed out that the bilgy cruisers had landed in harbors all over Lake Huron after the first Port Huron-Mackinac Race in the blow of '25 but the "R's" had made the grade and made it first. Only Howard Grant's big 56′ gaff-rigged yawl *Suez* got up to Mackinac that first year and she didn't arrive until nearly 48 hours after *Bernida*. But the far sighted committee, fellows like Perce Williamson, Lloyd Kurtzworth and Tom Archer, had their say. Sound, healthy, honest ships were encouraged and results followed. Our Port Huron-Mackinac racers compare favorably with any long distance fleet racing anywhere.

Apache, Wilfred ("Toot") Gmeiner's New York "32," third to finish last year, will be back along with a sister ship, *Vitesse II*, which Clete Welling recently brought here from Rochester. George Naumann has *Estrellita*, 52′ yawl, ready and she's 'way overdue.

E. C. Balch, with his 42′ Casey yawl *Iolanthe*, last year's cruising class winner, is going again along with Tom Lott's Week-Ender *Duchess*, Bob Neesly's schooner *Kittiwake* and Andy Langhammer's 38′ Rhodes' cutter, *Rambler VI*.

▶ *Bilgewash:* Every yachtsman who likes cruising has his memories of what happens to the wind . . . it's always coming from the place you want to go to. But that didn't happen to *Vitesse II* on her trip here from Rochester. Two miles out of that Lake Ontario port, the wind went into the south and stayed there until the "32" reached her new berth at Detroit.

And so, after reaching the 90 miles to Port Weller, *Vitesse* came out into Lake Erie and danced along on her way with sheets well eased and they weren't touched until we put the wind on our tail off of the Detroit River.

THE SOUTH SHORE OF LAKE ERIE

By John G. Robinson

▶ At the time of writing, the middle of June, the yachting season on Lake Erie was at least 30 days behind schedule with not more than half the fleet in the water. According to the various yacht yards, the reason for the delay in launching was due to wet weather, which prevented painting and varnishing, and the difficulty in obtaining efficient help to handle the actual work of launching. In other years, there was always the alibi of low water.

There is still some doubt regarding the scheduling of long distance racing events for auxiliaries this season. Many prominent owners, who are large employers of labor, feel that there may be some criticism by their employees if they race their boats this season. Anyway, the situation will be cleared up more or less by the success or failure of the Roberts Trophy Race from Rocky River to Kelleys Island and return, the night of June 26, and the Mills Trophy Race from Toledo to Detroit Light and return, on the same date.

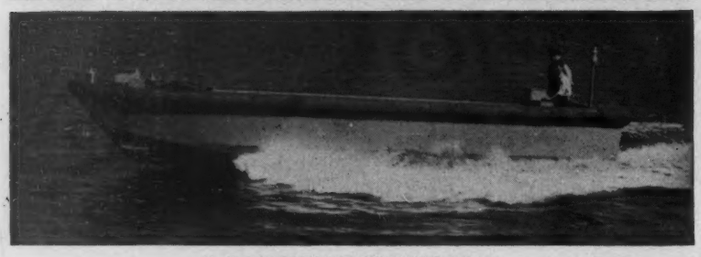
▶ Vernon Stranahan, of the Lakeside Y.C., Cleveland, arrived at his home moorings on June 6th with his 31′ auxiliary sloop *Revelry* which he bought from Bob Montgomery, of the Youngstown Y.C.

▶ Residents of Bay Village, O., some four or five miles west of Rocky River, have just completed the organization of the Bay Boat Club. This new club has secured a parcel of land just east of Cahoon Creek for club headquarters. At present, facilities are limited, for boats must be beached.

Original officers are: Ralph F. Bott, commodore; W. G. Haywood, vice commodore; Dale A. Smith, secretary, and David Zeiser, treasurer. Membership is limited to residents of the village.

▶ Skippers of the cruising auxiliaries of the Mentor Harbor Y.C. are to try a new system of handicapping under a three-year plan. The new system is based on the Universal Rule with a penalty against the winning yachts in each race, based on the Long Island Sound idea.

▶ The Sandusky S. C. will try out a new idea in racing schedules this summer, with a complete series of races for Sunday mornings, another on Sunday afternoons and still another on Wednesday evenings. In this way it is hoped that there will be enough races scattered through the week so that



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members who are employed and working long hours will be able to do some racing. The annual Sandusky Bay Regatta is scheduled for July 24th–25th.

▶ Carl Shuller was elected a trustee at the last monthly meeting of the Edgewater Y.C., Cleveland, to replace Arthur Hertzel, now in the Army.

▶ George Webber of the Cleveland Yachting Club has bought the Chris-Craft twin-screw Sportsman *Elro*, formerly owned by Dr. Roscoe Miller.

▶ Southern Lake Erie Star Fleet notes: Carl Cattanach, of Norwalk, O., has *Coquetta* ready for the season's racing with a new suit of Nye racing canvas. . . . Miss Alice Ziegler, of Lakewood, who sails *No. 900*, is home from Wellesley College. . . . Don Warner, a graduate from the National fleet, has bought Bob McKinstry's Larsen-built Star. . . . Al Wakefield, of Vermilion, usually there or thereabouts at the finish, has a swell idea for the encouragement of young skippers: he has promised to crew in races with the boat which finished next to last in the previous race. . . . Bob Laughlin, former Star pilot, who has been with the Coast Guard on the East Coast as petty officer, has been promoted lieutenant, j.g.

▶ W. C. Hodgdon, secretary-treasurer of the Vermilion Y.C., has sold his auxiliary sloop *Chewonki* to J. N. Douglas, of the Mentor Harbor Y.C. Morton Wallace, of the Cleveland Y.C., has sold his 32′ Matthews express cruiser to Capt. Gordon W. Hardy and has bought Dr. May's twin-screw Chris-Craft 31-footer *Boss o' Mine*, which will now be known as *Luxor*.

▶ The annual Lorain regatta is scheduled for Sunday, July 11th, with the Commodore's Ball to be held at the clubhouse the night before.

The annual Falcon Cup race from Rocky River to Mentor Harbor is set for Saturday morning, July 24th, with the Mentor Harbor Y.C. regatta Sunday, July 25th.

NEWS FROM THE LIGHTNING CLASS

▶ A. J. Webb, of Riverside, Conn., has been appointed vice president and chief measurer of the Class, replacing Mortimer E. Graham, of Erie, Pa., now an officer in the Naval Air Force. The new Chief Measurer has been one of the most enthusiastic members of the Class since its beginning, and has proved himself to be an able executive officer as well as a capable sailor.

▶ Reports from a majority of the 49 Lightning Fleets are filled with plans for active seasons of fleet and regatta racing, in spite of wartime conditions. The draft, enlistments in the armed services and long hours of war work have cut heavily into the 1942 membership of many fleets, but these are being replaced by juniors and others new to class racing. Contrary to expectations, many fleets are reporting substantial increases in memberships.

▶ The Dallas Corinthian S.C. Fleet, at White Rock Lake, Texas, found its winter "frostbite" series so popular this year that it is planning to make it official, on a par with the regular summer series, this coming winter.

▶ The new fleet of five boats recently organized at the Silver Lake Country Club, Warsaw, N. Y., brings to a total of nine the organized fleets included in the Central New York Lightning District.

▶ Sixteen championship races have been scheduled by the Mentor Harbor Y.C. Fleet at Cleveland, Ohio. There will be eight races each in the summer and fall series. In addition, inter-fleet races have been scheduled with the Interlakes and Great Lakes classes at the club, while plans are under way to entertain the Erie Y.C. Fleet in August.

▶ The Western Connecticut Fleet at Riverside, Long Island Sound, recently elected Theodore D. Helpri Fleet Captain; J. Henry Scholtz, Jr., Fleet Secretary; and DeHaven Ross, Fleet Treasurer. According to Captain Helprin, this fleet will have 16 Lightnings in the water this season. One boat has been taken over by the Riverside Y.C. for instructing the large class of junior sailors at the club.

▶ The Chautauqua Lake Y.C. Fleet, Jamestown, N. Y., which finished the 1942 season with nine boats, has lost two of its members to the armed services, one of these being Glenn Waite, skipper of *Hoo Doo*, was runner-up to Dr. M. G. Bourne, the Fleet Champion.

▶ Latest reports indicate that twelve boats will line up with the Irondequoit Bay Fleet at Algonquin Y.C., Rochester, N. Y., this season, a nice increase over the seven with which this fleet was chartered late in the 1942 season.

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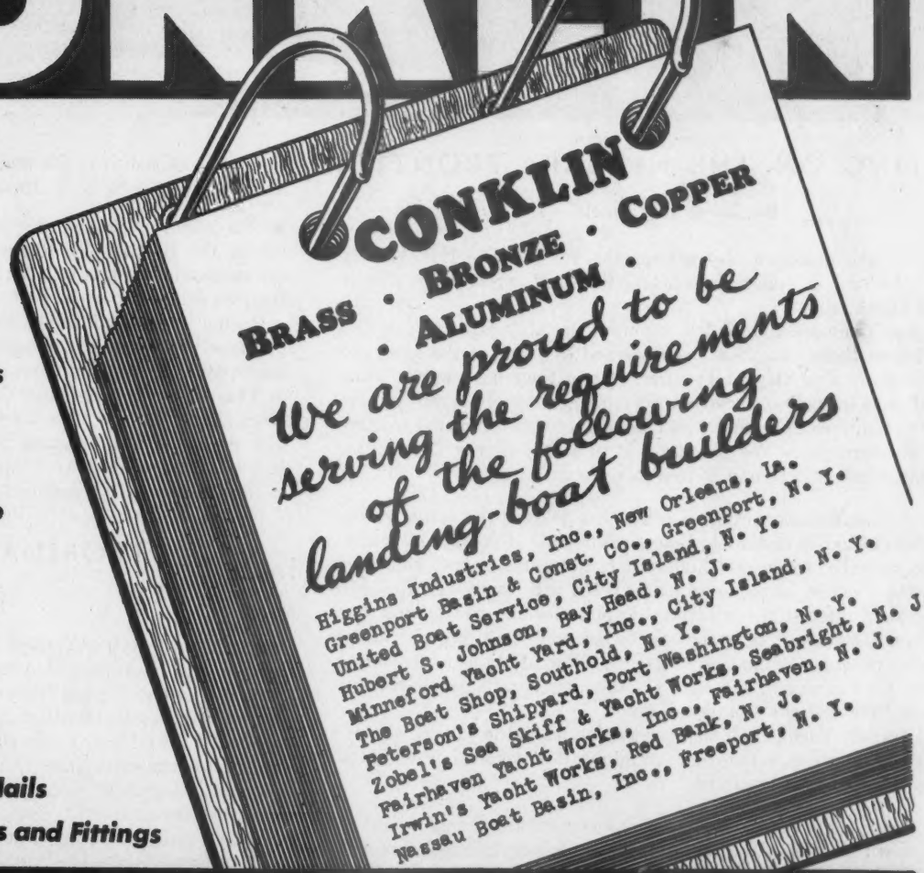
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YACHTING ON THE NIAGARA FRONTIER

By James H. Daniels

▶ Despite all the war-born obstructions this season, The Buffalo Y.C. marks its 84th year in a manner befitting the third oldest yacht club in the United States.

Commodore Tunmore and his fellow officers are ably fitted to carry on the work before them which has been marked by some of the most distinguished men of the Niagara Frontier. Out of their hard work, heartbreaking disappointments, perseverance, and good sportsmanship have emerged the traditions that officers and members today are bound to carry on during war-torn years. We are sure that in its 184th year The Buffalo Y.C. will be as hale and hearty as it is this year.

▶ The most unseasonable spring on record has delayed the active yachting at Buffalo longer than the old-timers can recall. However, by publication date, in spite of rain and high water, the cruising fleet will have its first event down in history and every berth will be filled in the club basin. The keen interest in outfitting, despite gasoline restrictions, has convinced the sailormen that power boat owners will work into able crews in the fleet of available windjammers this year. New additions to this latter fleet are Jim Lenz' Tumlare *Johanna*, Commander Hunt's Single-Hander *Rockette*, and Pete Stetler's Islander *Maleo*.

The first Buffalo Yacht Club member to give his life in World War II, Lionel V. Smith, died in action during October last year while with the Royal Canadian Air Force in India.

▶ "River, Stay Away From My Door" has become the official chant of the Youngstown Y.C. Not in over 60 years, according to old-timers, has the level of Lake Ontario reached its present height. So far, it has proved to be mainly inconvenient but property is bound to suffer much damage.

▶ An extension to 9000 feet of the Fort Niagara Aerial Firing Range will necessitate changing the location of the club racing triangles. All skippers, racing or otherwise entering or leaving Youngstown this summer, must use extreme care and be sure that their charts are properly marked.

The Youngstown Y.C. congratulates "Wes" Montgomery upon the arrival of his Bounty *Revelry II* at her new home port and for his remarkable passage *via* the Hudson River and Barge Canal during these troubled times, accomplished in the remarkable time of less than a week from Mamaroneck to Olcott, N. Y. traveling only by day.

▶ The abnormal high water prevalent on Lake Erie has been no handicap at The Buffalo C.C. this season. Abino Bay has always been a bit on the shoal side and this year we have on the average three feet more depth than we can recall in the past ten years.

Racing in the Lightning Class is much more closely contested than in previous years and the number of contestants will average higher than anticipated at the beginning of the season. Karl Smither and his crew in *Thurmi's Twice* have kept their slate clean with all first places but the other skippers are out for his scalp in spite of his national reputation. A new event on the program this year will be a Junior Lightning Class sailed on the club course on Sunday mornings. The Canoe Club now boasts of 73 members with the armed forces of the United States.

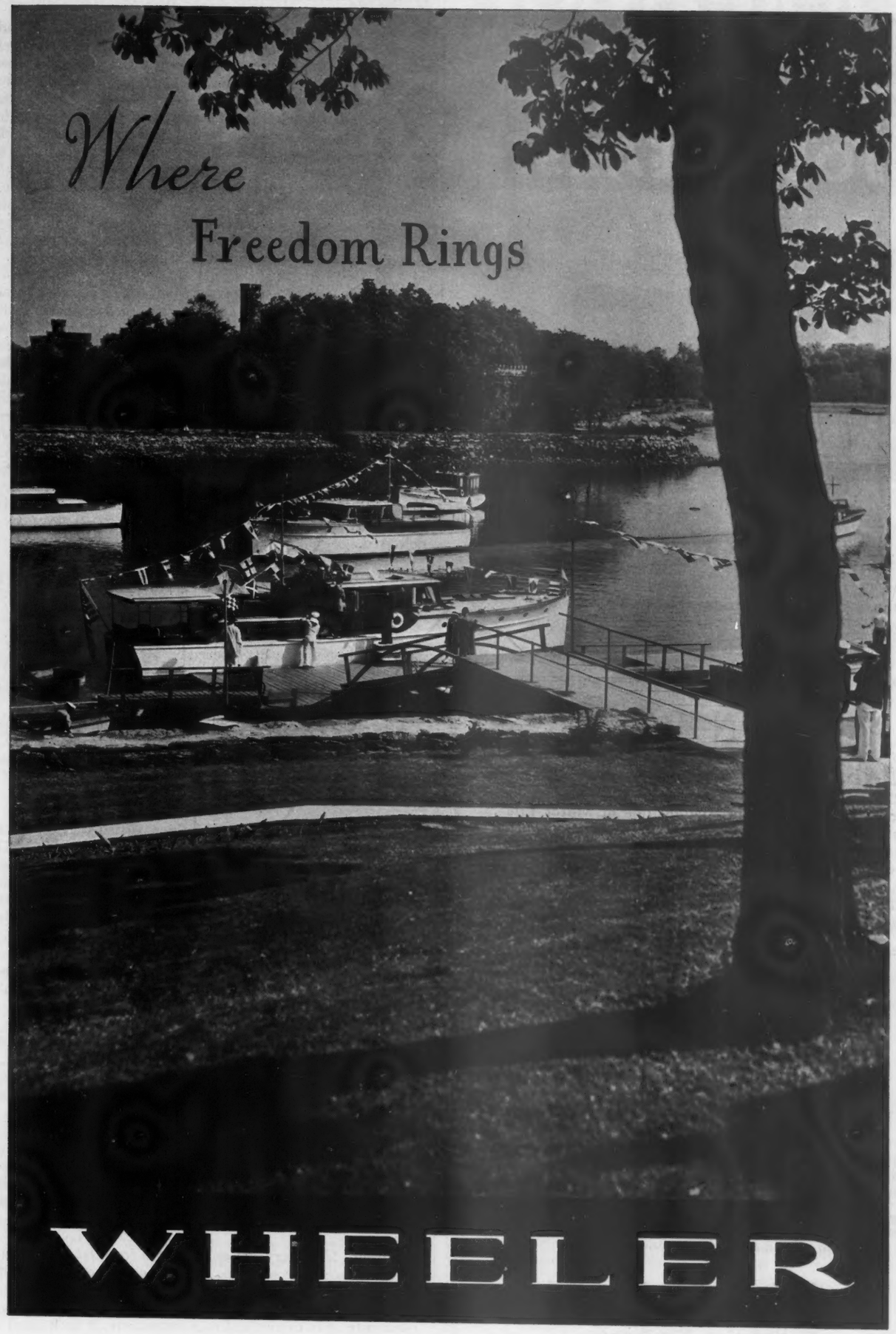
FLORIDA TRADE WINDS

By Vivyan Hall

▶ Patrol torpedo boats, which have aroused more interest than any other class of fighting ships in this war, have now expanded into Florida for advanced training. During the winter of 1941, the first PT's had their first operational training off Miami. Since then the basic training has been given at Melville, R. I. Now a new shakedown school has been set up at Miami, based on battle experience. Officers and men live aboard and are moulded into tactical groups. Coördinated with the Subchaser School, they are under the direction of Lt. Com. Alan R. Montgomery, whose Tulagi-based squadron sank an enemy cruiser, six destroyers and a patrol vessel and scored several "probables" in the Solomon Islands.

▶ In Cuba, the Navy has taken control of all pleasure craft for the purpose of forming a Coast Guard. Organized into 10-boat flotillas, this new service will be used for both rescue and patrol work. Though it is not so stated, it is believed that it is based on our Coast Guard Auxiliary.

▶ The Auxiliary of the Seventh Naval District reports that Flotillas 2 and 4 at St. Petersburg have been merged, the new officers being H. B. Richards, commander; W. W. Schlemmer, vice commander; and E. C. Keyworth, junior commander. This flotilla patrols John's Pass into Tampa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Marine Gasoline Motors

Our greatly increased production line of Motor Lifeboats is in danger of slowing down unless we can obtain a new source of gasoline marine motors. If you own a motor of one of the types listed below and it is in *first-class condition* — sell it to us. We will install it in a motor lifeboat and *send it to war where it will do the most good.*

We urgently need motors of the following types:

GRAY SEA SCOUT
GRAY 4-22
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PALMER "BIG HUSKY" LLH
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RED WING "ARROW HEAD JR."
KERMATH "SEA BIRD"

If you have one of these in your boat please write us immediately, sending a full description of your motor and the price wanted.

The use of gasoline motors is out for the duration in many areas — our Merchant Marine needs your motor now. When the war is won, start out with a new power plant.

Welin Davit and Boat Corporation
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Bay, individual boats operating on 48-hour shifts. Last month, O. J. Bliss's motor cruiser put in 158 hours of duty and Fred Bergman's rescued seven Sea Scouts from a capsized sail boat in Tampa Bay.

▶ Following his purchase of the motor yacht *Sanjan*, A. S. Publicovar, of New York, has also bought the 85′ *Fortuna* from Joseph A. Vogel, of Miami, and three large auxiliary cargo schooners which he has put in service to the Virgin Islands. Having gone to sea at fourteen and been a master at twenty, he can't stay off the water. The 85′ motor houseboat *Crescent* has been sold by Mrs. L. M. Dunn to F. S. McLachlan who plans to convert her to Diesel when such engines are again available. He is at present working on the development of a new underwater exhaust system which, it is said, will reduce the back pressure on both gasoline and Diesel engines by 75 per cent. Since Jack Price is now an ensign in the mine sweeper service, he and his brother Will have sold their 28′ auxiliary sloop *Vandal* to Robert Gardner, of Coral Gables. Manuel Fernandez, now a captain in the Army Air Force, has sold his 35′ ketch *Blue Stream II* to Harold R. Preston. Built in the Bahamas as war broke, she will be kept in Coconut Grove.

▶ The Fort Pierce Boat Works is completing a contract for aircraft rearmament boats for the Navy and is working on a number of garbage lighters for the Army. The Pine Castle Boat Works, near Orlando, is building rearmament boats for the Navy Air Force and portable pontoons for the Army Engineers. The Newport Shipyard, near Panama City, is building landing boats. The Daytona Beach Boat Works is continuing to turn out subchasers. The Tampa Shipbuilding Co. in mid-May launched the destroyer tender *Yosemite*, a sister ship to the tenders *Piedmont* and *Sierra* built here earlier in the year. The St. Johns River Shipbuilding Co., at Jacksonville, is at last hitting the pace. Delivering one Liberty ship in May, the yard is now launching them at the rate of one a week. The Panama City yard of the J. A. Jones Construction Co. delivered two Liberties in May. These are part of the national program for the construction of cargo vessels. That program reached a new high in May with an average of 5.8 ships a day delivered.

CHESAPEAKE BAY ACTIVITIES

By Bugeye Bill

▶ The season on the Bay opened on Memorial Day with the traditional Swan Point–Love Point race sponsored by Gibson Island Y.S. Eight boats in three classes came out for the 17-mile event, sailed in a light wind just sufficient to keep the fleet moving in good style.

Joe Nelson's sloop *Alsumar*, from Baltimore, made the best corrected time of the fleet and, of course, emerged with first place in Class B. The Navy's *Highland Light* had the second best corrected time and came through winner in Class A. Commodore John Sherwood, of G.I.Y.S. won Class C in his Bounty *Gibson Girl*.

▶ Twelve cruising yachts and five Stars participated last month in the first of two events this summer under Naval Academy auspices. The big boats were sent off on an 18-mile course down the Bay and back. The course decision was made on the strength of an Academy weather report promising good winds. It didn't turn out that way, however, for after the first mark the fleet drifted southward with the current, in one of the longest calms in years.

When the affair was called off, Norman Owens' New York "32" *Gallivant* was leading, with *Highland Light* about a quarter-mile astern. The Stars were able to get in only one of their races, won by *Flapper*, young Dave Gallaird, of Washington, skipper.

▶ Officials at the Annapolis Y.C. report, as this goes to press, that they are going ahead with plans for the regatta July 10th and 11th. With a large fleet from the Academy right at hand and many sailors able to sail their boats from home fleets to the Severn River, the gas situation will not be too much of a detriment.

▶ Sailing continues strong in Washington under Potomac River S.A. auspices, with as many as 40 boats competing to date. Most of the yacht clubs can be reached by bus or street car and Washington is getting accustomed to figures in sailing rigs with sail bags over shoulders boarding the city's public vehicles.

▶ Richard Macsherry, whose able ketch *Iron Duke* was a familiar craft at Gibson Island for some time, has been elected commodore of Chesapeake Bay Y.C. "Dick" moved over to the Eastern Shore some time ago and, at last reports, likes it. Dr. William T. Hammond, who has served previously as both vice and rear commodore, is back again as vice commodore. Rear commodore is Nils Anderson; Willard G. Rouse, secretary, and Royce R. Spring, treasurer.

High water at the Point Claire Y.C., 24 hours before the peak of the flood

POINTE CLAIRE Y.C. NEWS

By "Beaver"

▶ The late spring, coupled with exceptionally high flood water levels on Lake St. Louis, has delayed the work of getting the Pointe Claire Y.C. big fleet of yachts launched and ready for the season's activities. The high water did extensive damage to the club's property, carrying away cribs by which the wharves are supported, washing out revetment walls, etc. The sheer legs collapsed and an empty 500-gallon gas tank, buried several feet in fill and cribwork, worked itself to the surface. Despite all this, the club was able to open for the season as scheduled on June 5th, and on this date the first race, a tuning up event, was sailed in a strong wind and heavy sea. Seven boats turned out; for several of them it was their first time out under sail, and it speaks highly for the enthusiasm of skippers and crews that they went out under such conditions.

Prospects for a good summer's racing seem bright. The PC Class, made up of one-design 19′ sloops, is expected to bring out an average entry better than last year though more and more of the sailors are in the armed services. The other classes are being grouped together as "The Fleet," using a percentage handicap system based on past performance. New handicapping rules have been worked out, and handicaps will vary with each race sailed.

The PC Class schedule calls for two evening series of five races each, and a championship series of six races, held on week-ends; while The Fleet will sail five evening races, and a six-race championship series.

LAKE MICHIGAN BREEZES

By Warren T. Davis

▶ Rain, lots of rain, interfered with the fitting out program of yachtsmen in this area and delayed the start of the Midshipmen Training Program, put a blight on the Chicago-to-Milwaukee race sponsored by Milwaukee Y.C., spoiled a lot of varnish work, gave a cold to Commodore Harold F. Wood of the Cruising Club, and did some minor damage such as flooding a large part of the Middle West.

The 1942 Midshipmen Training program sponsored by the Navy League was quite successful and it is being repeated this year, although with fewer yachts engaged. (Some 60 odd this year.) The 1943 program is better organized as a result of experience.

At a formal meeting addressed by Commodore Sheldon Clark, President of the Navy League, and Captain B. Waygant, U.S.N., handsome certificates were presented to the yacht owners participating in the 1942 program. Attached to each certificate was a one dollar bill, charter fee for 1942.

▶ The new yearly pages for The Cruising Club Port Pilot and Log Book cover many of the east shore of Lake Michigan harbors, replacing old pages on the same area. A reprint has also been made of some of the Big Bay De Noc harbors. Also issued by this club is a rather complete text on Piloting and Dead Reckoning to go with the Log Book. These pages are reported to be the basis upon which a correspondence course on the subjects will be conducted next winter for club members. The Cruising Club has done a tremendous job in its five navigation schools, and has started its sixth school. More than 900 men and a few women have been enrolled in these classes. The new Log Book pages on navigation are designed to extend part of the knowledge gained in this school work to members of the club who have not been able to take the course, which covers Celestial Navigation as well as Piloting and Dead Reckoning.

▶ Numerous yachts have changed ownership this year just prior to the start of the season. Some of these were reported last month. Tom and

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These Feet Belong to the C.G.A.

Thousands of free-flexing rubber tentacles combine to produce a positive squeegee-suction action.

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In all weather and under all conditions the Coast Guard Auxiliary performs an important "watch dog" service. Like their brothers in the Air Corps, the Navy and the Army, scores of C. G. A. men depend upon the patented Sperry Top-Sider sole for complete safety on wet or dry heeling decks. Before the war Sperry Top-Siders were famous in the finest yachting circles—today they are serving the armed forces with greater foot safety. Your dealer may have Top-Siders in stock. If not, write directly to us.

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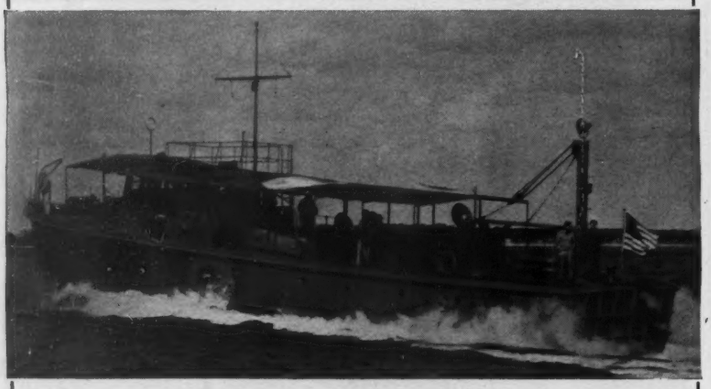

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Today we are not only building these boats in record time for the Army, but also converting pleasure craft for use in the Coast Guard. Into all our boats goes the skilled workmanship that for years has enabled us to say of our auxiliaries:

"CASEY BOATS ARE RARELY OFFERED FOR SALE—THEY SELL THEMSELVES"

When Victory is won, we hope that one of the first new CASEY auxiliaries to have her keel laid may be yours. Meanwhile . . . buy U. S. War Bonds and Stamps

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A PREDICTION...

While we are now engaged in "all out" war production . . . we can predict one thing about the post-war Mack Mariner Marine Diesel. It will be an even better diesel than our present one . . . more rugged, more dependable, more economical.

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Pacific Coast Distributors . . .
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BUY U. S. WAR BONDS

Bill Richards, of the Chicago Corinthian, have sold their schooner *Fortune* The Piries have sold their new yawl *Onaway* to Harry Ziemann, of the Milwaukee Y.C., B. M. Smalley has purchased *Gentian*, Harold Barr (Michigan City Y.C.) has purchased a Red Head sloop and Ellis Croisant (Chicago Corinthian Y.C.) purchased *Marmil* from Milt Stern and renamed her *Voyageur*. Milt Stern then purchased *Brummhilde*, Jack Bigelow of the same club has sold *Luna*, Kenneth Stafford of Chicago Y.C. sold *Stormy Petrel* to a Bay View Y.C. (Detroit) man and Hollis Baker sold his ketch *Shadrach* to a Cleveland man, buying a New York "32," which he renamed *Whisper*. Lyn Rountree, Vice Commodore of Chicago Y.C., has chartered Wells Lippincott's schooner *Sovereign*.

▶ The L.M.Y.A. year book is being published again this year. This is a big job. Commodore D. E. Hobelman, Chicago Corinthian Y.C., has done the editing.

▶ Sail racing on Lake Michigan will be highly competitive this year with a number of new contestants. The Michigan City race is to be run after this goes to press but before it goes in the mail. On July 17th, the Mackinac starts — the race of races for this area. Before it, on the 4th of July week-end, is the Annual Saugatuck race (Chicago to Saugatuck and then Black Lake, back to Chicago). Some of the Mackinac fleet will go to Green Bay for the M&M Y.C. 100-Mile Race, July 24th. This is a sporty race followed up by the Escanaba Y.C. four-legged four day cruising race.

▶ Harry Nye, Chicago Y.C., well known in International Star Races, won the Club Frostbite series this past spring with Jack Vilas as runner-up. The famous Class R fleet is getting a taste of Nye also this year while he sails a past champion, *Gossoon II*.

▶ Notices have been posted warning yachtsmen about a firing range off Fort Sheridan, Great Lakes and Michigan City. Requests have been made that yachts give right of way to the aircraft carriers engaged in practice operations and notice has been given about submarine practices. If your yacht suddenly starts rising in the water, it will be well to take a boat hook and push the sub away.

FROM SAN FRANCISCO BAY

By Jesse L. Carr, M.D.

▶ Often, once a lifetime; sometimes, once a decade; and in war, more often, real drama unfolds along the waterfront of a great seaport. In San Francisco, yachtsmen thought that there would be in their lifetime no spectacle to match the seven capital ships which were tied up at the San Francisco quays a year or more ago, all at the same time.

They had not then envisaged, of course, the Chilean Navy's four-masted bark *Lautaro* as she departed these waters for her homeward voyage. Now well on her way and out of danger, we hope, final inspection here revealed a magnificent reconstruction of quarters for officers and men and the addition of a large engine room with the installation of an Atlas Diesel, giving her a speed of 6 to 6½ knots under power alone. On either side of this great propulsion unit were put the Diesel generating systems, compressors, and miscellaneous machinery in a comprehensive planning which left an effect as esthetically pleasing as it appeared to be efficient. The decks have been reinforced in necessary places with heavy steel angle iron and I beams and the whole ship was gone over and left the port shining white.

▶ Now well in the past, but still current in interest because of the precedent it set, is the Corinthian Y.C. annual two-day race to Vallejo and back. Seventy-six boats turned out for this race which was, under the conditions, a remarkable showing. The whole fleet anchored within a few hundred yards of the great Vallejo Naval Yards, had parties ashore, lost members overboard, and suffered the usual minor mishaps common to a large regatta, but with all this, there was not a single infraction of the Naval or Coast Guard rules on either day. With this exemplary performance by Bay yachtsmen, the racing season in San Francisco is now assured. In contrast to this, however, are numerous infractions by cruising yachtsmen and many boats about the area have been tied up anywhere from one month to the duration for being found in restricted areas, indicating that, while lenient and coöperative, the Navy and Coast Guard are also going to be strict in enforcing the observation of restricted boundaries.

▶ In the week past, the Richmond Y.C. held its annual cruise. With Paradise Cove and other good anchorages now restricted, the club was hard put to it to find a good, deep water anchorage with available beach. Although Angel Island has been restricted territory for many years, the Navy and Coast Guard relaxed their requirements for one day.

▶ During the past week, two old-time and well-known yachtsmen died and the fading of the color which they lent to the sport is deeply regretted.

CIVILIANS

With Nautical Experience

WANTED BY THE WAR DEPARTMENT

THE War Department is in urgent need of the services of thousands of "boat wise" civilians to man small boats of various types operated by the Army's Transportation Corps throughout the world.

1. These boats of the Transportation Corps, which American shipbuilders are delivering to the War Department in ever-increasing numbers, run from 40 feet up to approximately 170 feet in length. They are not combat vessels. As completed, they are used both within and without the United States, in some cases in theaters of operation but not necessarily in combat zones.

2. There is an immediate need for qualified masters, mates and engineers and it is expected that the services of at least 600 junior deck and engineer officers will be needed in the near future. As a matter of fact, the War Department is prepared to give immediate employment to competent crewmen who can meet its liberalized standards in regard to marine or engineering experience and knowledge, as well as the physical qualifications.

3. [Regarding individual qualifications for service, the War Department has advised YACHTING that:

An applicant's draft classification will not necessarily be a barrier to employment; decision in this matter will be affected by the background and experience of the applicant, and all such matters will be settled by the War Department and the individual Draft Board in question. Civilians who are accepted for such employment will be subject to Civil Service rules but will not be members of the Civil Service as such. There are no fixed physical requirements of any kind.]

4. No formal examination is required to qualify for any of the positions now vacant. However, officials at ports of embarkation will satisfy themselves that each individual is competent prior to assignment to a specific position and shipment out of the United States. Where practicable, the requirement for licenses will be waived. Pay rates are in accordance with established levels in the Maritime Industry, with payment of bonuses in zones where bonus rates are applicable, together with annual leave, medical treatment and hospitalization, reasonable insurance protection, and repatriation to home port if contract is terminated by reason other than misconduct or refusal to obey lawful orders.

5. Persons employed will be expected to sign a contract for at least six months' service. Length of employment will ordinarily be for the duration of the war and perhaps longer. Promotion will depend upon the demonstrated qualifications.

6. Employees assigned to vessels are usually able to live aboard vessels, but if this is not possible they will be furnished ample victualling and accommodation allowances.

It is requested that qualified personnel, both amateur and professional, make application to the Chief of Transportation, United States Army, Washington, D. C., immediately, outlining in such application all pertinent employment factors such as the extent of their qualifications and experience and stating under what conditions they are willing to accept employment and the earliest date of their availability. Application on Standard Form number 57, which may be obtained from the Secretary, Board of Civil Service Examiners, at any post office, is preferred.

Only those persons who feel themselves fully qualified for such employment should apply. Requests for additional information regarding the above subject should be sent to the Chief of Transportation *and not to* YACHTING MAGAZINE.

42' Rescue boat

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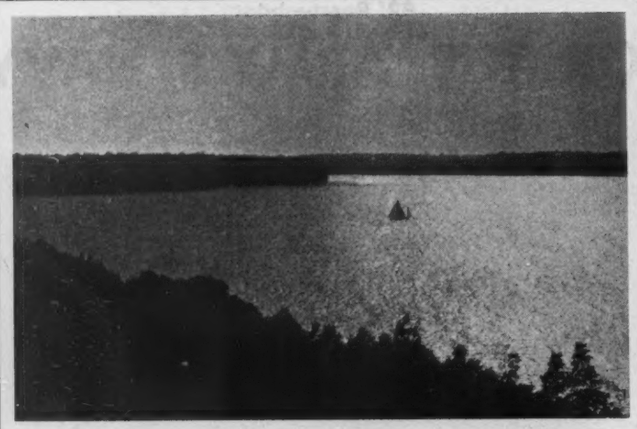

TOMORROW'S SUNSET

When you get hot and bothered this summer and in the mood for starting off on a long cool cruise in your own boat, just go out and buy yourself a War Bond. Thus, you will be hastening the day of that vacation and saving for it at the same time.

Our production lines are devoted to subchasers now, but when the Victory your War Savings are helping to bring arrives, we'll have a new cruiser waiting for you.

Elizabeth City Shipyard
ELIZABETH CITY, NORTH CAROLINA

Fred Wood, of the Corinthian Y.C., was for years an active and good sportsman, developing during his life yachting friends everywhere. Bert Hosta so permeated the sailing circles with his good spirits that he will be missed in all clubs.

▶ Boat sales continue unusually active for this season of the year and particularly for this type of year. Gus Dorn has deserted sail, purchasing the 36′ motor cruiser *The Bess*. Al Vargus is the new owner of *Dodo*. Mr. Robie has acquired *Windwagon* (ex-*Myru*). George Coster now owns the 36′ ketch *Kama*. In the South Bay, the Palo Alto Y.C. announces the purchase of George M. Smith's *Lightning* by O. H. Blackman. She is to be renamed *Wog*. Vice Commodore Harry Barnes, from this club, has bought the Anderson sloop *Suds*. Both *Imp* and *Ace*, remnants of the once famous San Francisco Class R fleet, are also now berthed at the Palo Alto Y.C. Lou Tole has brought the 47′ *Panglima* out by truck from Half Moon Bay after she had burned and will repair her in his yard during the summer. Ernest Tayer's *Sea Fox* has been taken by the Coast Guard. Mr. Tayer will soon leave for Bahrein Island in the Persian Gulf for the Standard Oil Co. His son Douglas is now a bombardier in Honolulu. Phyllis Finnell, daughter of Lt. Commander Finnell, has enlisted in the Marines. Lt. Commander Hindes, who has been stationed for a year and a half in Puerto Rico, has been made a commander. Ed Dollard has been promoted lieutenant, senior grade, and E. J. Towle has been made a lt. commander.

▶ All yacht clubs on the Bay report active interest and an exceptional number of new members taken in since the first of April. The benefit to yachting of this concrete interest is great but the nicest stroke of the year to date is the Richmond Y.C. donation of ten per cent of its past year net income to the American Red Cross.

PACIFIC NORTHWEST CAT'S-PAWS

By Ray Krantz

▶ *Tahiti Baby*, a well known auxiliary sloop of the Pacific Northwest's sail fleet, has changed hands again. The new owner is L. A. Lewis, of Seattle. Lewis bought the 28′ craft from Charles L. Smith, of Burton, Vashon Island, through O. H. Freeman's Fremont Boat Market. *Tahiti Baby*, a John Hanna design, is perhaps best known for a southeastern Alaska cruise she made several years ago in command of her original owner, Ray P. Tingley.

▶ Associated Shipbuilders' Lake Union Plant on June 8th put on something really unusual in the way of a launching. The YMS type mine sweepers under construction at this plant are built in sheds and, when ready for launching, are hauled out onto a floating drydock. Usually, the sponsor christens the vessel from a float at the bows, then the drydock is lowered and the hull floats free. At the June 8th launching, however, it was necessary to clear the drydock for other important work, so the sponsor found "her" ship already afloat. Undaunted, she broke the champagne bottle with a mighty two-handed swing and *YMS-292* was officially "launched."

"Anyway," as one ship carpenter observed, "we know the ship floats okay because she's been in the water 24 hours now!"

▶ For a moderate size boatbuilding establishment, the Grandy Boat Co. is setting up a fine mark in the construction of 36′ tunnel stern tugboats for the War Department. These are stout craft, powered with Chrysler engines, and designed by L. H. Coolidge.

Bill and Earl Grandy, along with Henry Bailey, owners of the yard, decided long ago, as they express it: "to get out of the way of the men so that they (the men) could build boats!"

Here are the statistics: On May 7th, a 36-footer hit the water. Another splashed into Lake Union on the 13th. On the 18th, still another. May 24th, one more. May 28th, another. June 5th, still another. And still one more was scheduled to be launched on June 12th.

▶ Speaking of tugs, Prothero and McDonald's shipyard, Seattle, slipped a second 52′ twin screw tunnel stern tug into Lake Union, on May 7th. A third tug, also designed by Edwin Monk, is due to follow soon.

▶ Edwin Monk is getting tug-minded these days. He was particularly interested in the trial runs late in May of *YT-361*, a new 83′ towing vessel for the Navy, built at Seattle by Puget Sound Bridge and Dredging Co. shipyard from plans drawn by Monk in collaboration with L. H. Coolidge. *YT-361*, one of a series of identical tugs, is equipped with a 350 hp. six-cylinder direct reversing Washington four-cycle Diesel.

▶ Despite the uncertainties of war (and gasoline supplies), boating retains a certain strength and momentum in the Pacific Northwest. Boat sales continue strong. Fremont Boat Market reports the purchase by R. E. Kelsh,

TOUGHEST JOB EVER ASSIGNED TO ANY ANCHOR

Stern view 328 ft. Invasion Ship equipped with 3000 lb. Danforth

EXCLUSIVE FEATURES: The Danforth is the only anchor which has all these features — it is self-burying; non-fouling; it stows flat or in hawse pipes and there are no stocks to unfold.

Danforth Anchors are fully protected by U. S. and Foreign Patents

Danforths Aid Tank Invasion Ship Landings . . . Get Vessels Back Off Beach

New 328 ft. ocean-going invasion ships drop a 3000 lb. Danforth astern as they approach shore . . . the Danforth steadies the vessel through the surf as it runs aground and prevents broaching to. The bow opens down and tanks come out shooting. The landing completed, the Danforth gets these heavy vessels back off the beaches.

An ordinary vessel of this size would require a stockless of about 5000 lbs. for routine anchoring. The "little" 3000 lb. Danforth has the guts and stamina to do this tougher job . . . dramatic evidence of the superior holding ability of the Danforth.

Uncle Sam keeps piling up orders to speed Victory. Sorry we cannot supply all your demands now. It's worth while to wait for a Danforth.

Write for Danforth folder · BUY WAR BONDS

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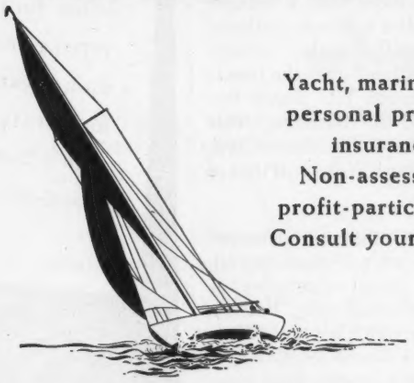
THROUGH 101 YEARS



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Gilled gourmets of the briny deep need no ration cards. Fishes are "in the chips," enjoying a U-boat diet, thanks to the Navy, Coast Guard — and Paragon Gears. On Uncle Sam's light combat and patrol craft, Paragon reverse and reduction gears help supply the swift maneuverability that hits the enemy hard and sinks 'em often.

year after year it's **Paragon**

REVERSE and REDUCTION GEARS

PARAGON GEAR WORKS, INC., CUSHMAN STREET, TAUNTON, MASS.

of the 35′ double-ended sport fishing boat *Orca*. She is driven by a Chrysler Ace and will be used at Port Angeles, Washington, in sport fishing for the Northwest's famous fighting salmon.

Quad, a 36′ Coast Guard picket boat converted to a cruiser, has been sold to N. La Bounty, of Seattle. Fremont Boat Market sold her for the estate of the late W. S. Benjamin.

"Doc" Freeman also reports an interesting sale in which Betty Thorsen, blind woman of Everett, and her husband, Edward, bought the 26′ Monk-designed cruiser *Dolores*, with Gray Six-72. Joseph Bailey, Seattle, formerly owned *Dolores*.

▶ Henry and Bill Fryberg, owners of Ballard Marine Railway Co., Inc., Seattle, sent still another YMS mine sweeper down the ways on June 5th.

And, speaking of launchings: Barbee Marine Yards' Bryn Mawr plant launched two new 127′ wooden tugs for the Army during May. The fourth tug of five building at the yard, went over on May 15th, and the fifth on the 29th.

▶ *Cat's-paws:* Bill Tregoning, formerly with Associated Shipbuilders' Lake Union plant in the construction of YMS mine sweepers, is now with Northwestern Shipbuilding Co., South Bellingham, where he is specializing in outfitting the various vessels building at that yard. . . . John Opsand, former operator of the West Seattle Shipyards, is now with Puget Sound Bridge and Dredging's west waterway shipyard. . . . R. S. Marshall, Lieut., USN, is skipper of *YMS-327*, built at Seattle recently by Ballard Marine Railway. . . . An interesting development of the Army's 40′ motor launches (similar to the Navy motor-sailers), is *J-851*, a 40-footer completed with a pilot house and after cabin, by Vic Franck's Boat Company, Seattle; the shelter should be appreciated in cold and stormy climes. . . . Jensen Motor Boat Corp. on June 5th launched a 36′ tunnel stern tug for the Army and a second one three days later.

LONG ISLAND SOUNDINGS

By Starboard Tack

▶ *Patricia* (Arthur P. Davis), *Feather* (J. L. Merrill) and *Alberta* (Albert Marx) were the top Internationals in the second of the tune-up races held at the Larchmont Y.C. on May 16th. Two of the S Class raced the same day, with *Kandahar* (P. S. Patton) leading *Felicity* (R. H. McCullough) over the line with three minutes to spare. . . . Corny Shields with his *Aileen* ran up two firsts and one fourth to annex the Sparkman Cup which was hotly contested for at the Larchmont Y.C. on May 22nd and 23rd. In the first race of the series, *Feather* (J. L. Merrill) was second and *Alberta* (Albert Marx) was third; in the second race *Sheldrake* (J. R. Sheldon) was first, *Alberta* was second and *Feather* was third; in the third race *Sheldrake* was second and *Patricia* was third. The Atlantics were out on both days, with *Minkie II* (C. H. Vanderlaan) and *Teal* (Jack Sutphen) leading the way. *Kandahar* led the S Class in both morning and afternoon races on the second day as did the "110" *Pat II* (G. A. Atwater) in the afternoon. . . .

▶ Echo Bay's special regatta opened the Sound's summer racing season on the Saturday preceding Decoration Day. No more than a whisper of a breeze cut the turnout down to 24 boats and, after a 30 minute delay, the fleet got away to shortened courses. J. L. Merrill's *Feather*, handled with consummate skill by Sherman Hoyt, was first boat over the line in the International's competition for the Royal Bermuda Y.C. season trophy, while C. H. Vanderlaan's *Minkie II* again led the Atlantics. Other winners were *Taffy Too* (H. M. Wooten) of Division 7, Handicap Class, *Quitz* (J. D. Peterson) of the 110 Class and *Blue Peter* (William Baltz) of the Comet fleet.

▶ The first race of the Sound Championship series was also sponsored by Echo Bay on the following day. All in all, there were 35 starters and, to celebrate the occasion, the breezes were a bit more coöperative. A final tabulation resulted in the following firsts: Internationals, *Patricia* (A. P. Davis); Atlantics, *Minkie II* (C. H. Vanderlaan); S Class, *Kandahar* (P. S. Patton); Handicap Class, Division 5, *Valkyrie* (S. E. Kay); Handicap Class; Division 7, *Skipper* (S. G. Ellis); Comets, *Blue Peter* (William Baltz); 110 Class, *Quitz* (J. D. Peterson).

▶ The American Y.C. played host on Decoration Day, which brought out 37 yachts representing six different classes. The starring contenders were: Internationals, *Patricia* (A. P. Davis); Atlantics, *Teal* (Jack Sutphen); Class S, *Fidget* (J. N. Halstead); "110" Class, *Hobby* (H. G. Herbert); Handicap Class, Division 7, *Skipper* (S. G. Ellis); Comets, *Blue Peter* (William Baltz). On the same afternoon, the Manhasset Bay Y.C. held a Sound series regatta, which resulted in the following winners: Victories, *Jimmy* (L. M. Rakestraw); Manhasset Bay One Designs, *So Long* (Robert Heinl); Atlantics, *Pastime* (John Hooker).

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Because it's up to you as much as it's up to them. Unless you—and all the rest of us at home—are devoting every spare minute of our time to fighting this war as civilians, *their* chances of victory are slim.

Next time you read of an American raid on enemy positions—with its tragic footnote of lost planes and ships and men—ask yourself:

"What *more* can I do today for freedom? What *more* can I do tomorrow that will save the lives of men like this and help them win the war?"

* * *

To help you find *your* place in America's War for Freedom, the Government has organized the Citizens Service Corps as part of local Defense Councils. Probably there is one of these Corps operating now in your community. Give it your full co-operation. If none exists, help organize one.

Write to this magazine for a free booklet, "You and the War," telling you what to do and how to do it. This is *your* war. Help win it. Choose what you will do now!

EVERY CIVILIAN A FIGHTER

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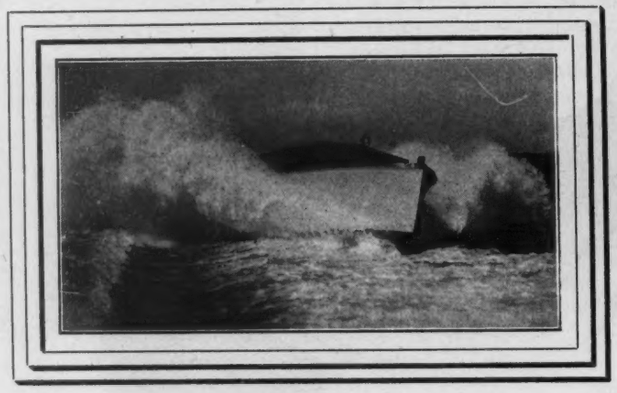

Summer Spray

Another summer is already here — a summer during which few of us will find time to get afloat in our own boat for more than a few hours at a time. A year from now more care-free sailing days will be closer — maybe they will have returned. Then we can go back to our old peacetime schedule of building more boats like "Tar Baby," "Lucy," "Cindy III" and the Visitor, Over-Niter, and Week-Ender classes.

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▶ Larchmont held its second special regatta on June 5th, and the excellence of the breeze again gave occasion to bring up reference to the now-famous phrase of "Larchmont Luck." *Aries*, L. T. Webster's outstanding contender in the Handicap Class, A. E. Luders, Jr's, International *Four Winds* and C. H. Vanderlaan's Atlantic *Minkie II* were among the numerous winners. The same club held its third championship regatta the following day, with a turnout of 44 boats in nine different classes. Dick Hill's *Lucky Star* led the Coastwise Cruisers, L. T. Webster's *Aries* the Handicap Class, Division 5 (with S. G. Ellis' *Skipper* taking Division 7), Albert Marx's *Alberta* the Internationals, and W. & M. Hornidge's *Saina 2nd* the "110's". There were even two Class B dinks over the line, with Alton O'Brien's *Frappe* the first to come home.

▶ One of the neatest tricks of the month was the bulletin sent out by the Racing Committee of the Huntington Y.C. summarizing the final tabulations on their initial regatta of the season conducted for cruising auxiliaries. Not only did it give all the summaries, but it highlighted the many incidents of that very successful one-day event. Gordon Israel's *Cuba Libre* beat Bob Moore's *Perroquet* in Class A, Dick Hill's *Lucky Star* won in Class B as did Robert L. Hall's *Nimrod II* in Class C. Huntington's next race is scheduled for July 25.

▶ A "110" half model is to be awarded to the winner of the most points in 5 races of the 110 class to be sailed off Larchmont over the week-ends of July 4th and Labor Day. The model will be finished to match the winning boat, including class insignia, racing number, and name. There will be other awards for series later in the season. The eleven races to be sailed off American Y.C. and Larchmont between July 3rd and August 14th, inclusive, are scheduled as class championship races for the Western Long Island Sound Fleet. Seven races must be sailed to qualify.

COMET COMMENTS

By Malcolm D. Lamborne, Jr.

▶ A charter for a fleet at the Sea Isle City Y.C. in New Jersey, is about to be issued, and it is expected that inter-fleet racing will be arranged between the new group and the older fleets at Stone Harbor and Wildwood.

▶ Comet racing on the upper Delaware River opened over Memorial Day, with the Riverton Y.C. fleet going into commission. Last month saw Ed Merrill, former national champion, launch his latest Comet.

▶ Twelve Comets have been racing in Washington this spring under auspices of the Potomac River S.A. in one of the most successful fleets in years. Fleet Capt. Ed Braddock (he's a two-striper in the Navy) has done an excellent job of rounding up stray Comets.

With the series two-thirds over, the spring racing was led by Clarke Daniel's *Robert E. Lee*. Braddock, in *Toby*, was second.

▶ Col. "Jack" Jacobs, who left Washington for active duty several years ago, has been moving up and down the East Coast and is now settled down, for a while at least, in Philadelphia. Some of the Comet people there hope to see him sailing in that area. Before that, Jacobs was in Florida, where he managed to get in a bit of sailing.

▶ Comets made one of their first appearances of the season on Long Island Sound over Memorial Day, when the American Y.C. opened its season.

▶ Here is a service report on a few of the Comet sailors who formerly raced on Raritan Bay and adjacent waters: Jack Melko, one time ace skipper at the Raritan Y.C., is commanding a PT boat somewhere along the East Coast. Warner Willcox, national Comet champion in 1937, is an ensign in the Navy; his brother Roger, 1935 national champion, is a second lieutenant in the Army. Jeff Nichols, who raced in the second midwinter regatta of the Class in Puerto Rico, has been commissioned ensign in the Navy.

▶ National Secretary Joe Fernandes reports interest in the Class at Trenton, Ontario. Members of the Royal Canadian Air Force are interested in building a fleet of boats for use of airmen in free hours.

▶ One thing about being an admiral and a Comet owner: you don't get a chance to sail a Comet. That is the situation of Rear Admiral Edward L. Cochrane, head of the Navy's Bureau of Ships in Washington. His *Scuttlebutt* is being sailed this spring by one of the junior officers in the Bureau, Lt. Bob Whittredge. Bob is the original owner of *Scuttlebutt*.

The boat, by some miracle, finished second, only a quarter-point behind Ed Merrill in the first midwinter regatta in San Juan. She was sailed by the writer in that series.

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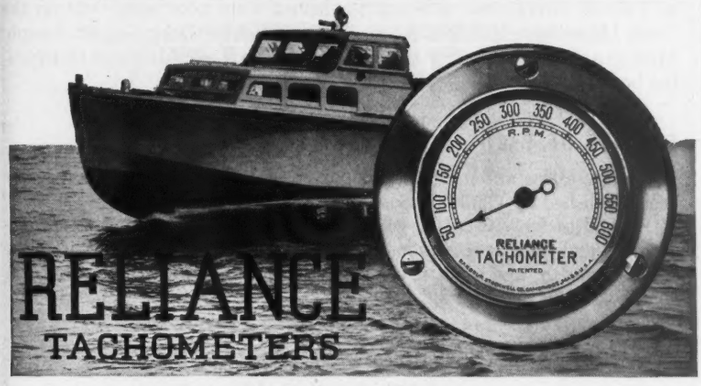

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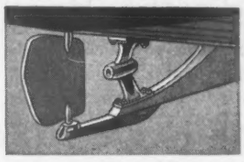
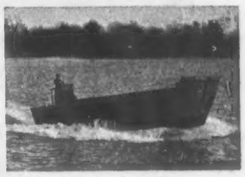


underwater parts. Notice, too, how keel, strut and rudder are streamlined to admit more solid water to the propeller and increase speed. Owens designers don't miss a trick!



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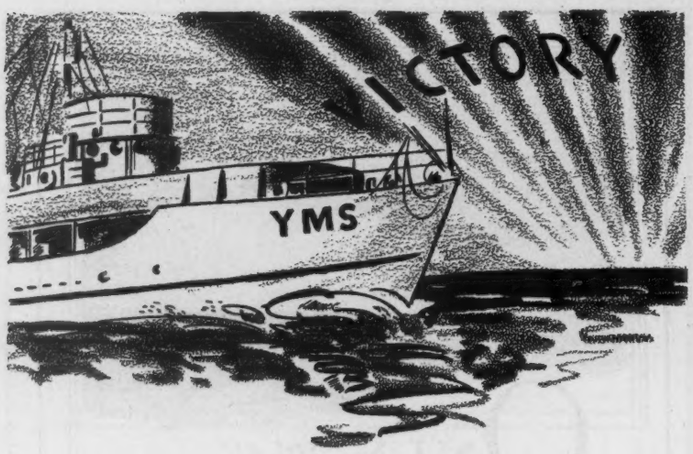

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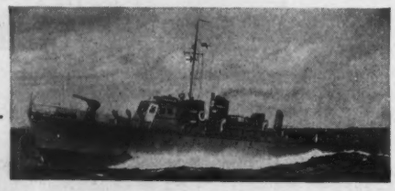
★  ★

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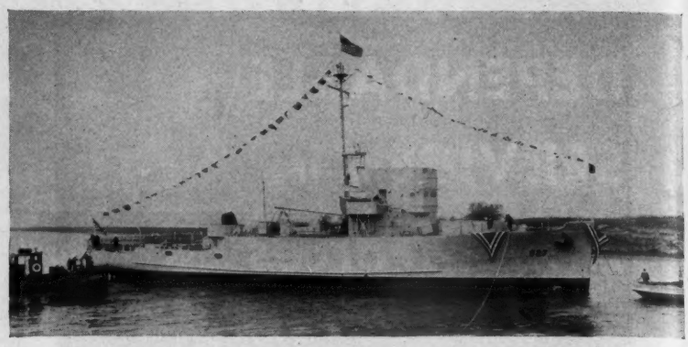
NEWS OF THE INDUSTRY



The Pullman Standard Car Co. launches one of the new 180' PCEs. They have double the displacement of a PC, and are designed for convoy duty

RADAR DETECTORS NOW IN MASS PRODUCTION

▶ Westinghouse Radio Division, Baltimore, Md., has announced that its output of Radar equipment has been substantially increased since the start of the National Defense Program in 1940. During 1937, Westinghouse developed the key electronic tube for the first Army Radar equipment for detecting enemy aircraft by means of invisible beams of radio waves.

EXIDE ANNOUNCES PLASTIC BATTERY RETAINER

▶ Announcement of a plastic storage battery retainer manufactured from polystyrene has been made by the Electric Storage Battery Co. "Although the basic raw materials are still on the critical list," report the manufacturers, "this new retainer can be manufactured from secondary materials, by-products from the use of this material for other war purposes. The result is a retainer that marks a distinct step forward in battery design just as the slotted rubber type, which was developed some years ago, did in its day."

TRUSCOTT LAUNCHES TWO AIRCRAFT RESCUE BOATS

▶ Two 63′ aircraft rescue boats, the fastest ships now being built on the Great Lakes, were launched by the Truscott Boat & Dock Co., St. Joseph, Michigan, late in May. For the first time in any Lake Michigan shipyard, the boats were launched by means of a drydock.

THE ABC OF YACHT INSURANCE

▶ An interesting and informative booklet on yacht insurance has recently been published by Chubb & Son, New York, under the title of *The ABC of Yacht Insurance*. Cost, coverage, exclusions, general information, reductions and safety precautions are covered fully. It's a "must" item for any yachtsman, and a gratis copy may be obtained by writing Chubb & Son at 90 John St., N. Y.

NEW BOOKLETS

▶ The diversified products of The Weatherhead Co., Cleveland, are shown together in one publication for the first time in the new catalog supplement, which is now available. . . . The Enterprise Engine & Foundry Co. has recently released catalogue No. 172 which fully describes the various types of marine Diesels made by that company.

One of a number of seagoing tugs for the Navy is among the numerous warcraft built by Gibbs Gas Engine Co., Jacksonville, Florida

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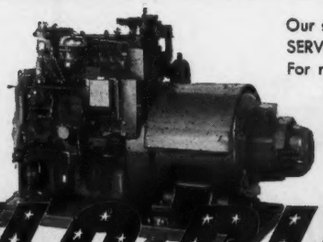

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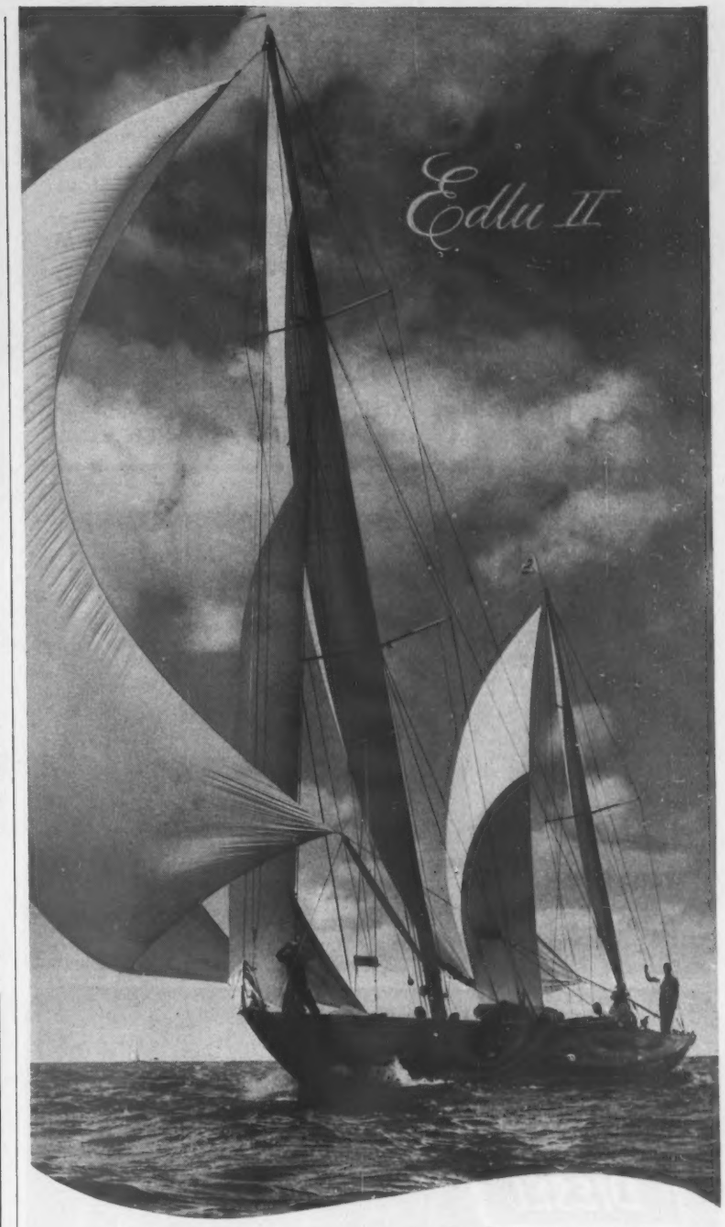

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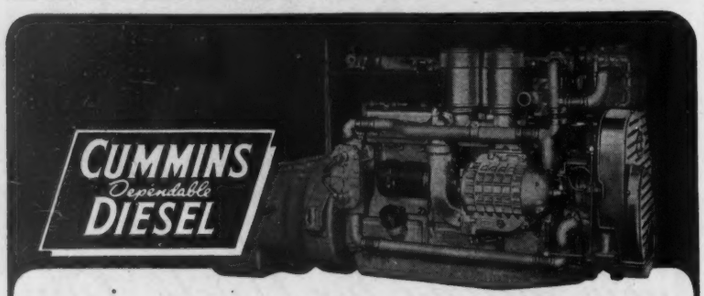

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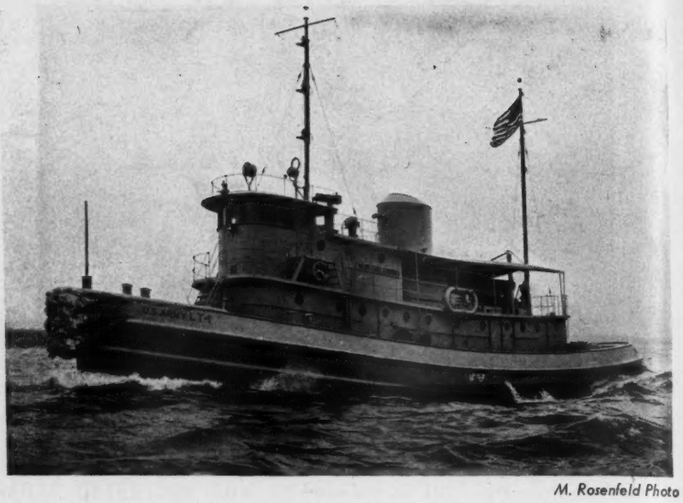

M. Rosenfeld Photo

The Diesel tug "Major Ethel A. Robbins," the first of eight seagoing tugs built for the Army by the Jakobson Shipyard, Oyster Bay, L. I.

ON THE PRODUCTION LINE

▶ The Annapolis Yacht Yard, Inc., was recently awarded the Army-Navy "E", the presentation being made by Rear Admiral J. R. Beardall, Superintendent of the U. S. Naval Academy. One of the highlights of the event was the speech made by Chris J. Nelson, President of the Annapolis Yacht Yard. "Have you ever stopped to think," he said, "of the things we are doing without? We are doing without the bombing of our cities, we are doing without the bombing of our homes, we are doing without famine. . . . Let us not forget those things we are doing without!"

RECENT PRODUCTION AWARDS

▶ The Army-Navy "E" to Skilsaw, Inc., Chicago, Ill.; Climax Engineering Co., Clinton, Iowa; I. F. Laucks, Inc., Seattle, Wash.; D. W. Onan & Sons, Minneapolis, Minn.; Irwin's Yacht Works, Red Bank, N. J. . . . The Maritime Commission's "M" has been awarded the Leathem D. Smith Shipbuilding Co., Sturgeon Bay, Wis. . . . The Bellingham Marine Railway and Boatbuilding Co. has had its "E" renewed. . . . The Berg Boat Company, Inc., Georgetown, Md., has received its first star. . . . Both the Hallicrafters Co., Chicago, and the Electric Storage Battery Co., Philadelphia, have received additional stars for production excellence.

MARINE ENGINE INSTRUCTION BOOKS

▶ The illustrated instruction manuals published by the Gray Marine Motor Co. have proven extremely useful to students, naval operators, boat owners and members of Power Squadron classes. The volumes now available are: *Student's Manual of Gray Marine Diesels* (275 pages, 400 illustrations), $3.50 ($2.00 to men in the Armed Forces). *Shop Manual for a Typical Graymarine Gasoline Engine*, $1.50 ($1.00 to men in the Armed Forces). The *Operator's Handbook* (for either gasoline or Diesel engines) is gratis. These volumes may be obtained from the Gray Marine Motor Co., 640 Canton Ave., Detroit, Mich.

"Lt. Col. Paul W. Evans," an all steel 65' Army cargo and utility vessel, also of Jakobson construction. Plans were by Sparkman & Stephens

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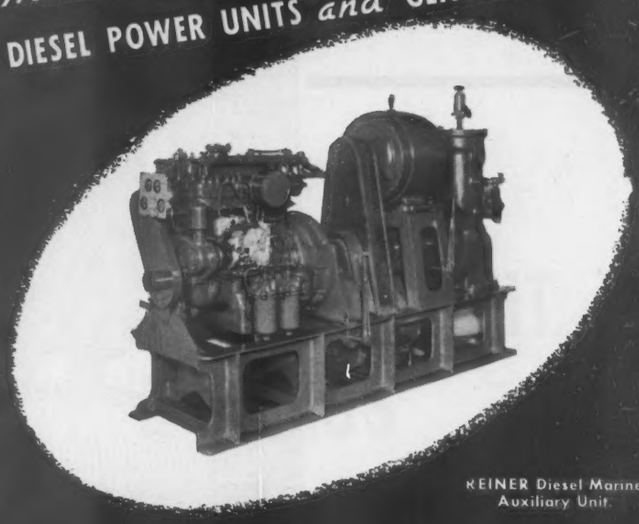

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Lifeboats alone were not enough. Too little time to launch them. Hundreds of precious lives, unable to reach the safety of a boat, drifted to death clinging to a spar, a piece of wreckage or the remains of a wooden crate. Seaworthy rafts were needed that could be catapulted from great height into the sea.

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The KOKOMO LIFE-SAVING KRAFT is the result. Revolutionary in construction and designed to meet every condition and emergency, it will be standard equipment on all ocean going vessels.

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August 26, 1942 **— The Maritime "M" Pennant, the Victory Fleet Flag and Maritime Merit Insignia. Given in recognition of outstanding achievement in war production.**

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Awards on May 8th, 1943 to two plants in Kenosha, Wisc., completed this 100% record for The American Brass Company.

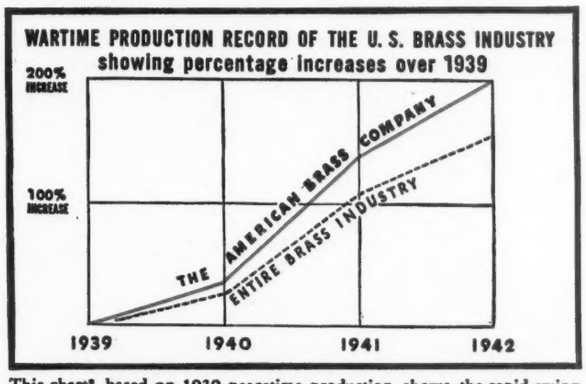
ALL TEN AMERICAN BRASS CO. PLANTS IN U. S. A. HAVE EARNED RIGHT TO FLY ARMY-NAVY "E" FLAGS

This is the story in terms of war production

Our Connecticut plants were among the first in the brass industry to receive the coveted "E" Award for outstanding production of war materials. Since then *all* our plants, including those in the States of Michigan, Wisconsin and New York, have been similarly honored.

As the largest fabricator in the copper and brass field, The American Brass Company is keenly aware of its responsibility and its opportunity to serve the cause of the United Nations.

Since 1939, production has been tripled, with virtually every pound today going for war purposes.



This chart*, based on 1939 peacetime production, shows the rapid swing into all-out war production, both by the copper and brass fabricating industry and The American Brass Company (not including Government-owned plants). All-time production records have been continually broken ever since the National Defense Program was initiated in 1940.

*Based on compilations of The American Bureau of Metal Statistics

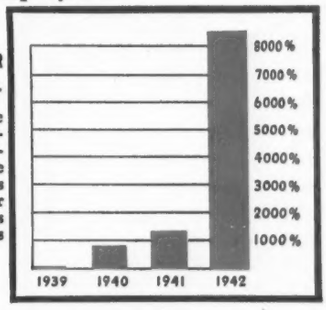
This record was accomplished by close cooperation between management and labor . . . careful planning for rapid conversion to wartime operations . . . intensive training of new personnel . . . plus efficient utilization of existing and new plant equipment.

Detailed figures, of course, cannot be revealed, but The American Brass Company is consistently breaking all previous volume records. In addition to its U. S. plants and that of a Canadian subsidiary, Anaconda American Brass Ltd., the company's production also embraces three plants operated for the United States and Canadian Governments.

Shipments this past January were the largest in the company's history. March exceeded January. The first quarter of '43 was by far the greatest tonnage quarter in the records of the company.

PRODUCTION OF COPPER ALLOYS FOR AMMUNITION by The American Brass Co.

This chart shows the vast increase in production of copper-base alloys directly earmarked for ammunition in plants operated by The American Brass Company. This is one of the most vital needs for copper and brass. Tremendous quantities are required for all types of ammunition.



The American Brass Company is proud indeed that all the plants it operates in the U. S. A. have won the honor of flying the Army-Navy "E" for excellence in production. But it is even prouder of the organization and the will-to-produce that have made this record possible . . . *and will keep it going.*

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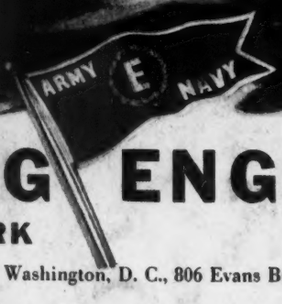
In this daring rescue work there must be plenty of power, efficient and dependable. That's why the Admiral has been drafted for Army service. It is the same engine that is writing history for the United Nations, and from which will spring so many advanced ideas for engines in the years of peace that lie ahead.



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